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**ECONOMIC ANALYSIS
FOR THE FINAL REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION
(40 CFR PART 112)**

Office of Emergency and Remedial Response
U.S. Environmental Protection Agency

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND AND PURPOSE OF THIS RULEMAKING

The Federal government began a program to reform and to increase the efficiency of the regulatory process when President Clinton signed Executive Order 12866 on September 30, 1993. This Executive Order aims to reform the regulatory system to "protect and improve" the "health, safety, environment, and well-being" of Americans "without imposing unacceptable or unreasonable costs to society."¹ Section 5 of the Executive Order requires Federal agencies to periodically review their existing significant regulations to determine whether any such regulations have become unjustified or unnecessary as a result of changed circumstances, i.e., that they: (1) have become incompatible with other existing regulations, (2) have become unnecessarily burdensome, or (3) are not consistent with the President's priorities and therefore should be modified or eliminated.

In response to Executive Order 12866 and Vice President Gore's subsequent National Performance Review, the U.S. Environmental Protection Agency (EPA or the Agency) set a goal of reducing by 25 percent the paperwork burden associated with the Agency's regulatory requirements that were in effect as of January 1, 1995.² To attain its 25 percent paperwork burden reduction goal, EPA has examined both the need for its paperwork requirements and methods by which essential information can be collected and provided at the lowest cost to the regulated community. EPA has worked extensively with industry, states, and other interested groups to identify ways to minimize reporting and recordkeeping requirements. On June 1, 1995, EPA reported to the President all of the monitoring, recordkeeping, and reporting regulations that it believed were duplicative and unnecessary. The changes to the Oil Pollution Prevention regulation (40 CFR part 112) presented below are being finalized to further reduce burden on regulated entities and to help the Agency reach its burden reduction goal without compromising protection to public health or welfare or to the environment.

The purpose of this Economic Analysis (EA) is to provide estimates of the potential costs and benefits of the final revisions being made to 40 CFR part 112. This regulation establishes requirements for Spill Prevention Control and Countermeasure (SPCC) Plans to prevent spills of oil into or upon the navigable waters of the United States or adjoining shorelines or affecting certain natural resources by non-

¹ 58 FR 51735.

² U.S. Environmental Protection Agency, *Reinventing Environmental Regulation*, March 16, 1995.

transportation-related onshore and offshore facilities. The Agency is finalizing changes that would reduce the information collection burden of the rule and that would reduce inefficiencies and overlap with other regulations, thus complying with the Executive Order. The effect of this rulemaking would be to reduce the cost of compliance to the regulated community while maintaining the current level of protection to public health and welfare and to the environment.

1.2 REGULATORY BACKGROUND

The Oil Pollution Prevention regulation, at 40 CFR part 112, outlines requirements for both prevention of and response to oil spills. The changes and adjustments in this final rulemaking involve the prevention aspect of this regulation, also known as the SPCC regulation. It was originally promulgated on December 11, 1973, at 38 FR 34164, under the authority of section 311(j)(1)(C) of the Clean Water Act (CWA). The regulation established spill prevention procedures, methods, and equipment requirements for non-transportation-related onshore and offshore facilities with aboveground oil storage capacity greater than 1,320 gallons (or greater than 660 gallons in a single tank), or buried underground oil storage capacity greater than 42,000 gallons. Regulated facilities are also limited to those that, because of their location, could reasonably be expected to discharge oil into the navigable waters of the United States or adjoining shorelines.

The SPCC rule has been amended a number of times since its initial promulgation. On October 22, 1991, the Agency proposed another set of revisions to the SPCC rule.³ The proposed revisions involved changes in the applicability of the regulation and the required procedures for the completion of SPCC Plans, as well as the addition of a facility notification provision. The proposed rule also reflected changes in the jurisdiction of section 311 of the CWA made by amendments to the Act in 1977 and 1978. On February 17, 1993, the Agency again proposed further clarifications and technical changes to the SPCC rule.⁴ The proposed changes involved contingency plans, training, and methods of ensuring against brittle fracture. On December 2, 1997, the Agency proposed its latest set of changes to the SPCC rule.⁵ The proposed changes were intended to reduce the information collection burden of the rule. The purpose of this final rule is to address the proposed revisions made in the October 22, 1991 proposal, the February 17, 1993 proposal, and the December 1997 proposal.

³ 56 FR 54612.

⁴ 58 FR 8824.

⁵ 62 FR 63812.

EPA is finalizing the revisions to the Oil Pollution Prevention regulation to reduce its information collection burden and to clarify the intent of the existing regulation. The changes pertain to the prevention aspects of 40 CFR part 112.

1.3 STATUTORY AUTHORITY

Section 311(j)(1)(C) of the CWA authorizes the President to issue regulations establishing procedures, methods, equipment, and other requirements to prevent discharges of oil from vessels and facilities and to contain such discharges.⁶ The President has delegated the authority to regulate non-transportation-related onshore facilities under section 311(j)(1)(C) of the Act to EPA under Executive Order 12777, section 2(b)(1).⁷ By this same Executive Order the President has delegated authority over transportation-related onshore facilities, deepwater ports, and vessels to the U.S. Department of Transportation (DOT) and authority over other offshore facilities, including associated pipelines, to the U.S. Department of the Interior (DOI). A subsequent Memorandum of Understanding (MOU), dated February 3, 1994, among EPA, DOT, and DOI, reallocated the responsibility for non-transportation-related offshore facilities that are landward of the coast line to EPA. An earlier MOU between the Secretary of Transportation and the EPA Administrator, dated November 24, 1971 (36 FR 24080), established the definitions of non-transportation-related facilities and transportation-related facilities.

1.4 REVISIONS TO 40 CFR PART 112

EPA is finalizing a number of changes to the SPCC rule. Only a limited number of these changes are expected to have a measurable effect on the burden associated with reporting and recordkeeping activities. The majority of changes being made that are expected to affect burden-related activities are designed to reduce reporting and recordkeeping burdens for SPCC-regulated facilities. The following changes are expected to have a measurable effect on respondent burden:

- Final 40 CFR 112.1(d)(2)(i) and 112.1(d)(4). EPA is no longer regulating under the SPCC program a completely buried tank that is subject to all of the technical requirements of 40 CFR part 280 or of a State program approved under 40 CFR part 281.
- Final 40 CFR 112.1(d)(2)(ii). EPA is no longer regulating a facility having a single container with a storage capacity greater than 660 gallons, but aggregate aboveground storage capacity of 1,320 gallons or less of oil.

⁶ 33 U.S.C. 1321(j)(1)(C).

⁷ 56 FR 54757 (October 22, 1991), superseding Executive Order 11735, 38 FR 21243.

- Final 40 CFR 112.1(d)(5). EPA is no longer regulating any container with a storage capacity of less than 55 gallons of oil.
- Final 40 CFR 112.1(f). EPA is granting its Regional Administrators the authority to require any facility subject to the jurisdiction of EPA under section 311(j) of the CWA, but otherwise exempt from the requirement to prepare an SPCC Plan under part 112, to prepare and implement a total or partial SPCC Plan where necessary to carry out the purposes of the CWA.
- Final 40 CFR 112.3(a). EPA is requiring an SPCC-regulated facility to amend its SPCC Plan to conform with the new sequence and requirements of the final rule, if necessary, within six months of the effective date of the final rule and to implement the Plan within 12 months.
- Final 40 CFR 112.3(e)(1). EPA is changing from eight hours to four hours the minimum number of hours that a facility must be attended for a facility to be required to maintain a copy of an SPCC Plan on the premises.
- Final 40 CFR 112.4(a). EPA is changing the threshold for submission of information following certain discharges and is reducing the amount of information that must be submitted to the Agency after such discharges.
- Final 40 CFR 112.5(b) and (c). EPA is changing the Plan review period from three to five years and is requiring the owner or operator of a facility to document the completion of the review and evaluation. A Professional Engineer's (PE) certification of a Plan amendment will now only be required for technical changes made to the Plan.
- Final 40 CFR 112.7(a)(2). EPA is allowing a facility to deviate from most substantive requirements if the owner or operator explains his reasons for nonconformance and provides equivalent environmental protection.
- Final 40 CFR 112.7(a)(3). EPA is requiring an SPCC-regulated facility to include with its Plan a facility diagram, which must mark the location and contents of each container.
- Final 40 CFR 112.7. EPA is allowing an owner or operator to use an alternate format from that specified in the rule if the format is acceptable to the Regional Administrator, meets all applicable rule requirements or is supplemented so that it does, and is cross-referenced to those requirements.
- Final 40 CFR 112.7(d). EPA is exempting the owner or operator of a facility which has submitted a Facility Response Plan (FRP) from the requirement to provide a contingency plan and a written commitment of manpower, equipment,

and materials to expeditiously control and remove any quantity of discharged oil that may be harmful.

- Final 40 CFR 112.7(e). EPA is allowing records of inspections and tests kept under usual and customary business practices to suffice for records of inspections and tests required under part 112.
- Final 40 CFR 112.7(i). EPA is requiring the owner or operator to evaluate a field-constructed aboveground container for risk of discharge or failure due to brittle fracture or other catastrophe when the container undergoes a repair, alteration, or a change in service that might affect the risk of brittle fracture or other catastrophe.

1.5 ORGANIZATION OF THE ECONOMIC ASSESSMENT

The remainder of this report is organized as follows:

- Chapter 2 presents the methodology used by EPA to produce the results reached in this report;
- Chapter 3 discusses the estimated costs of the rule's final revisions;
- Chapter 4 summarizes the benefits of the final regulation; and
- Chapter 5 presents a summary of the impact of this rulemaking on small businesses.

CHAPTER 2

METHODOLOGY

This chapter presents the methodology used to estimate the economic effects of the final revisions to the Oil Pollution Prevention regulation. Section 2.1 summarizes the general approach followed in calculating the economic effects. Section 2.2 presents the baseline for the analysis. Section 2.3 describes the classification of the final revisions to the regulation into four categories for purposes of quantifying the economic effects of the proposed revisions. Section 2.4 discusses the manner in which the number and size distribution of affected facilities is estimated, and how this estimate factors into the analysis. Section 2.5 summarizes the process used to estimate the unit costs of compliance to facilities. Finally, Section 2.6 presents how the total annual costs of the final revisions are calculated.

2.1 GENERAL APPROACH

The first step in analyzing the economic effects of the final revisions to the Oil Pollution Prevention regulation is to develop the baseline for the analysis, which is the benchmark from which changes in regulatory behavior (caused directly or indirectly by the final regulation) are measured. In general, the baseline is a projection of regulated facility behavior in the absence of the new regulatory provisions.

After establishment of the baseline, each regulatory revision is classified into one of five categories: baseline, cost increase, negligible increase, cost savings, or negligible savings. Revisions classified as baseline are assumed to produce no substantive change in the existing regulation or to be already adhered to as good engineering practices or prevailing industry standards or practices. Revisions classified as negligible increases or negligible savings are expected to result in small and generally unmeasurable costs or cost savings per facility or to affect only a small subset of SPCC-regulated facilities. Revisions that may result in more significant costs or costs savings to facilities are categorized as cost increases or cost savings, respectively.

Next, the number of affected facilities is estimated by size category to allow the analysis to account for differences in the potential costs experienced by different sizes of facilities. Unit costs of compliance are then estimated for certain revisions. Unit costs vary by facility size (small, medium, and large), as appropriate. The final step in the methodology is to combine information on the number and size of affected facilities with information on unit costs to estimate the total annual costs of the final revisions. Exhibit 2-1 provides an overview of the approach used to estimate the economic effects of the final revisions to the Oil Pollution Prevention regulation. The remainder of this chapter provides greater detail on the steps in the methodology; Chapters 3 and 4 discuss the costs and benefits of the final regulation.

2.2 BASELINE FOR THE ANALYSIS

The incremental costs of this final regulation are calculated relative to a baseline of current behavior. The term “baseline” is shorthand for the projection of public and private sector behavior in the absence of the new regulatory provisions. Office of Management and Budget and EPA regulatory guidelines recommend that the effects of regulatory alternatives be measured relative to the effects of behavior in the absence of the proposed alternatives. Thus, the baseline:

- Provides a point of comparison for estimating the effects of different regulatory alternatives. The baseline should not include the effects of the final regulation; this would render the evaluation of the regulation meaningless and lead to an assessment of the regulation as having no positive or negative effects.
- Does not necessarily represent current industry practices or behavior, although such practices or behavior might be reflected in the baseline.
- Is a projection, but not necessarily a prediction, of behavior; as such, the baseline represents a hypothetical, anticipated situation.
- Should be constructed for purposes of evaluating only the effects of the regulatory alternatives. It should not be designed to evaluate the effects of the enabling statute, the existing regulation that would be modified by the final regulation, or other existing regulations.

Because this analysis estimates only the incremental effects associated with the final regulatory changes, a natural choice for the baseline would be full regulated party compliance with current regulatory requirements. However, the possibility that current industry practices, behavior, or standards may exceed current regulatory requirements also needs to be considered to accurately measure the true incremental effects of the final rulemaking. If current industry standards exceed current regulatory requirements, for example, the estimated costs to industry of complying with the final new requirements may be lower if current industry standards are incorporated in the baseline. Projections of activity in the absence of the final revisions, therefore, could be based on current regulatory requirements, current industry standards, or some combination of the two.

For the purpose of this report, the baseline is assumed to be full compliance by regulated facilities with the current regulation, as well as industry behavior, practices, or standards that exceed the current regulation. When industry behavior or practices exceed the current regulatory requirements, actions beyond those taken to meet the current government requirements generally are voluntary. Voluntarily incurred costs are not attributable to the final rule because they would have occurred even in the absence of the final revisions and, therefore, cannot be judged to have been caused by

the regulation. When industry behavior or practices fall short of the current regulatory requirements, the costs to industry of complying with the current regulatory requirements are attributable to the current regulatory requirements, not to the final regulation. If the costs of complying with the current regulation were included in the costs of complying with the final regulation, then the costs of the original rule would be counted twice (once in the analysis supporting the original rule and once in the analysis supporting the final rule).

Many industry trade groups and national safety organizations have standards and guidelines relating to the storing, handling, and transfer of flammable and hazardous materials, including oil. The good engineering practices and prevention and control measures currently required by the Oil Pollution Prevention regulation include the application of appropriate industry standards. Furthermore, industry standards generally are developed through the concurrence of a majority of the firms in the relevant industry, so adherence to these standards may be considered widespread.

Current regulatory requirements, as discussed in Chapter 1, include those in 40 CFR part 112. Changes from “should” to “shall” to “must” in 40 CFR part 112.7 (reorganized as 40 CFR parts 112.7 - 112.15 in the final revisions) do not require evaluation, because these changes are assumed to be clarifications of existing requirements rather than substantive changes. Changes from “should” to “must,” therefore, are subsumed in the baseline. The preamble to the final rule states:

Section 112.3 of the SPCC rule has always required that SPCC Plans be prepared in accordance with §112.7, which in turn requires that Plans be prepared in accordance with good engineering practice. However, clarification of the existing rule is necessary because of confusion on the part of some facility owners or operators who have interpreted the current rule’s use of the words “should” and “guidelines” in §112.7 as an indication that compliance with the applicable provisions of the rule is optional. The rule used the words “should” and “guidelines” to provide flexibility for facilities with unique circumstances. Those circumstances might be such that mandated regulatory provisions would not be in accord with good engineering practice. Therefore, the rule gave facilities the opportunity to provide alternative methods that achieve equivalent environmental protection, or to show that the provisions were inapplicable based on specific circumstances.

In 1991, we proposed to clarify that misunderstanding by generally substituting “shall” in place of “should” throughout the reorganized rule. In today’s final rule, we

have editorially changed “shall” to “must” in furtherance of the Agency’s “plain language” objectives. The “shall” to “must” is not a substantive change, but merely an editorial change. Nor will the change add to the information collection burden. We have always included requirements prefaced by “should” in the information collection burden for the rule. We will continue to provide flexibility for an owner or operator who can explain his reasons for nonconformance with rule requirements, and can provide alternate measures from those specified in the rule, which achieve equivalent environmental protection.

It is possible that some facilities have misinterpreted the existing regulation and are not currently in full compliance with existing requirements, but there is no practical way to measure the level of non-compliance. Moreover, as discussed above, the costs of coming into compliance with the clarified requirements are not properly attributed to this final regulation. The baseline used in this analysis also assumes full compliance with other current regulations that are related to the Oil Pollution Prevention regulation, including regulations issued by the Occupational Safety and Health Administration, the U.S. Coast Guard, and EPA’s Underground Storage Tank (UST) program.

Where current industry standards meet or exceed the existing regulatory requirements, the estimated cost of the final revisions will include only the incremental cost between the current standard and the final requirement because facilities are assumed to adhere to industry standards. Some examples of industry behavior that may exceed the current regulatory requirements include compliance with the following industry standards:

- American Petroleum Institute (API) standards 620, 650, 653, and 2610;
- National Fire Protection Association (NFPA) standards 30 and 30A;
- American Society of Mechanical Engineers (ASME) standard B31.3; and
- Underwriters Laboratories, Inc. (UL) standard 142.

2.3 CLASSIFYING THE FINAL REVISIONS

The final revisions to the Oil Pollution Prevention regulation include provisions that may require changes in industry behavior and other provisions that may affect the regulated community less significantly, if at all. In estimating potential economic impacts, it is necessary to isolate the regulatory changes that are likely to contribute to a measurable increase or decrease in the level of economic burden. Consequently, each of the changes in the final rule has been classified as “none,” “baseline,” “cost increase,”

“negligible increase,” “cost savings,” or “negligible savings.” Exhibit 2-2 presents each revision and its classification under the final rule.

Final revisions classified as “none” do not result in costs to regulated facilities. Revisions classified as “baseline” generally do not substantively change the regulatory requirements or industry behavior and, therefore, are assumed not to result in additional costs to affected facilities. A final change has been classified as part of the baseline under the following circumstances:

- If a final revision makes explicit a requirement that is implicit in the current regulation, it is considered a clarification of the existing requirements and not a substantive change.
- Changes in the regulatory language from “should” to “must” (i.e., an activity “must” be taken instead of “should” be taken) are assumed to be clarifications of the requirements, rather than substantive changes.
- Final revisions that require compliance with industry standards also are classified as part of the baseline because full compliance with industry standards is assumed.
- If the required activity is a good engineering practice that should be followed under the existing regulation, a final revision is considered part of the baseline. The existing regulation requires that all SPCC Plans be prepared according to good engineering practices (40 CFR 112.7).

When a revision is not considered part of the baseline, but is unlikely to result in measurable costs or cost savings, that final revision is classified as “negligible increase” or “negligible savings.” Negligible revisions have the potential to require the regulated community to incur costs or cost savings, but any such costs or cost savings are judged either too small to measure or minimal in the aggregate in comparison with the total costs of the non-negligible provisions. One example of a negligible revision is final 40 CFR 112.4(a), which reduces the amount of information that must be submitted to an EPA Regional Administrator in the event of certain discharges and raises the threshold of such discharges for reporting purposes under that section. This final revision is classified as “negligible savings” because of the very small probability that a facility will experience a discharge reportable under §112.4(a). In addition, final 40 CFR 112.5(b) requires that the facility owner or operator document both that the five-year SPCC Plan review was completed and whether the Plan was amended. This revision is classified as a “negligible increase” because affixing a signed statement involves a minimal burden increase to the facility owner or operator.

Revisions classified as “cost savings” or “cost increases” are expected to result in measurable costs or cost savings to the regulated community. One such revision

classified as a “cost savings” is 40 CFR 112.1(d)(2)(ii). This revision exempts from the SPCC program all facilities with an aggregate storage or use capacity of 1,320 gallons or less of oil, and excludes containers of less than 55 gallons from the calculation of a facility’s aggregate storage capacity. This final revision will remove a substantial number of facilities from the scope of the SPCC program, thereby offering substantial cost savings to the regulated community. Final 40 CFR 112.1(f) is an example of a revision classified as a “cost increase.” The revision gives the EPA Regional Administrator authority, when necessary, to require previously a exempted facility owner or operator to prepare a total or partial SPCC Plan. Quantitative cost estimates are developed for revisions that impose non-negligible costs under the final rule.

EXHIBIT 2-2
CLASSIFICATION OF REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION

| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|-------------------------------------|--|-----------------------|----------------------|---|
| 112.1 General applicability | | | | |
| 112.1(a) | Expands the geographic scope of the rule to conform to CWA geographic scope. | Baseline | Baseline | The regulatory change does not affect the number of facilities being regulated under the SPCC program because the statutory change has already been taken into account in EPA's previous economic analyses. |
| 112.1(b) | Tracks amendments to the CWA. Also clarifies that a facility using oil may also be subject to the requirements of this rule. | Baseline | Baseline | EPA is clarifying its existing interpretation that a facility using oil operationally may also be subject to the SPCC requirements. |
| 112.1(b) | Clarifies the types of oil storage containers that EPA is regulating. | Baseline | Baseline | EPA is merely clarifying its existing interpretation of the rule. |
| 112.1(b)(3) | Clarifies EPA's definition of an aboveground container that is regulated, to exclude one that is permanently closed | Negligible savings | Negligible savings | A few facilities with permanently closed containers may no longer be regulated. |
| 112.1(c) | Editorial changes to reflect deletion of §112.6. | None | None | The revisions to this section are merely editorial and reflect the deletion of §112.6. |
| 112.1(d)(1)(i) and (ii) | Editorial changes. | Baseline | Baseline | These editorial changes do not affect either burden or cost calculations. |
| 112.1(d)(1)(iii) | Clarifies that this part does not apply to a facility, equipment, or operation that is not subject to EPA jurisdiction, including a facility subject solely to DOT and DOI jurisdiction. | Baseline | Baseline | The change reflects jurisdiction established by an MOU. |
| 112.1(d)(2)(i) | Clarifies that a permanently closed container and a completely buried tank subject to all of the technical requirements of 40 CFR part 280 or a State program approved under 40 CFR part 281 (UST regs) does not count in the calculation of the 42,000 gallon threshold. | Cost savings | Cost savings | Certain facilities with USTs are no longer required to comply with SPCC provisions. Will have greater impact on new facilities that have not yet prepared Plans. 1991 EA estimated that gasoline service stations would be most affected by this rulemaking and essentially drop out of the SPCC program. Could also affect: trucking and warehousing, airports. |
| 112.1(d)(2)(ii) | Excludes a facility having only aboveground storage capacity in a single container of more than 660 gallons, as long as the aggregate storage capacity is 1,320 gallons or less of oil. Also excludes a container of less than 55 gallons from the calculation of a facility's total storage capacity. | Cost savings | Cost savings | A substantial number of facilities will drop out of the SPCC program as a result of the threshold revision. To a much lesser extent, a few facilities may also drop out because the exemption for a container of less than 55 gallons may cause the aggregate storage capacity to be 1320 gallons or less. |
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| 112.1(d)(3) | Exempts a facility subject to MMS jurisdiction as specified in the 1993 MOU. | Baseline | Baseline | EPA has not included these facilities in its economic analyses of the program since the MOU was signed. |
| 112.1(d)(4) | Exempts a completely buried tank subject to all of the technical requirements of 40 CFR part 280 or a State program approved under 40 CFR part 281 from SPCC. | Negligible savings | Negligible savings | The scope of some Plans will be reduced if they no longer need to include certain completely buried tanks. |
| 112.1(d)(5) | Exempts bulk storage containers with a capacity of less than 55 gallons of oil from the program. | Negligible savings | Negligible savings | The scope of some Plans will be reduced if they no longer need to include small containers. |
| 112.1(e) | Minor editorial changes. | Baseline | None | |
| 112.1(f) | Gives the RA authority to require preparation of a total or partial SPCC Plan, for previously exempted facilities, when necessary to carry out the purposes of the CWA. | Cost increase | Cost increase | 1993 NPRM EIA estimated that about 100 facilities would be affected annually, 60 small, 30 medium, and 10 large. |
| 112.2 Definitions | | | | |
| 112.2 | Expands the current definitions in the SPCC regulations. | Baseline | Baseline | EPA is merely clarifying currently used terms and definitions. |
| 112.3 Requirement to prepare and implement Spill Prevention, Control, and Countermeasures Plan | | | | |
| 112.3(a) | Requires a facility already in operation to amend its Plan, if necessary, within 6 months of the effective date of this part, and to implement the Plan within 12 months. | Negligible increase | None | Although facilities will incur a burden to read and understand the changes being made to the SPCC rule, few facilities will need to amend their Plans as a result of the changes. |
| 112.3(b) | Requires a new facility to fully prepare and implement its Plan before beginning operations. | Negligible increase | None | In the period between when a facility is constructed and when it begins operations, there should be enough time to implement the SPCC Plan. It is unlikely that this provision would delay the start of operations. |
| 112.3(c) | Editorial changes. | Baseline | None | |
| 112.3(d) | Adds specificity to PE certification by requiring that the PE certify that inspection and testing procedures have been established, industry standards have been considered, and that the Plan is adequate for the facility. Allows the PE's agent to visit and examine the facility. | Baseline | None | Although the proposed rule adds some specificity to the PE's responsibility, these requirements are not assumed to go beyond the current requirement that a Plan shall be prepared in accordance with good engineering practices. |

EXHIBIT 2-2
CLASSIFICATION OF REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION

| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|---|---|-----------------------|----------------------|---|
| 112.3(e) | Lowers from eight to four hours the minimum number of hours a facility must be attended to be required to have a complete Plan on site each day. | Baseline | None | No net change in the number of Plans. Some facility types, especially E&P, may have to move the Plans from field offices to the facility if it is attended more than four hours a day. |
| 112.3(f) | Gives an RA authority to grant an extension of time for the preparation and full implementation of a Plan or amendments and deletes current requirement that a facility must submit a complete copy of its Plan along with its request to the RA. | Negligible savings | None | Analyses assume that facilities incur planning and implementation costs in same year that they become regulated and that, on average, even with an extension, Plan preparation and implementation costs will still be incurred during that year. |
| 112.4 Amendment of Spill Prevention, Control, and Countermeasures Plan by Regional Administrator | | | | |
| 112.4(a) | Reduces the information that must be submitted to an RA in the event of certain oil discharges and raises the threshold for the size of discharges that trigger submission. | Negligible savings | None | Two areas of burden reduction result: 1) only facilities that experience two or more 42-gallon discharges on a rolling basis (as opposed to two or more reportable discharges of any size) must submit information to RA; and 2) the amount of information that EPA is requiring facilities to submit is reduced - namely facilities no longer have to submit the entire Plan. Negligible cost savings because few facilities experience two or more reportable discharges within these time periods. |
| 112.4(b) | Clarifies that facility need not comply with §112.4 until Plan is fully implemented. | Negligible increase | None | As stated in §112.3(b), new facilities must prepare and implement Plans before beginning operations, so they will be subject to §112.4 (submitting information after certain discharges) before beginning operations. But few facilities will be affected by extended Plan preparation and implementation periods. |
| 112.4(c) | Requires that Plans be sent to appropriate State agency(ies) in charge of oil pollution control activities. | Negligible increase | None | In some States, a facility may have to send copies of its Plan to more than a single State agency if State has more than a single agency in charge of oil pollution control activities. But few facilities will be affected because only a few will have to provide additional information. |
| 112.4(d) | Clarifies that the RA can require an SPCC Plan to be amended after an on-site review. | Baseline | None | The cost to amend a Plan is not counted because it is already captured in the baseline under the assumption that all SPCC-regulated facilities prepare complete Plans. |
| 112.4(e) and (f) | Several editorial changes. | Baseline | None | |
| 112.5 Amendment of Spill Prevention, Control, and Countermeasures Plan by owners or operators | | | | |

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|---|--|---|----------------------|---|
| 112.5(a) | Several editorial changes and a change in timing of Plan amendment. Also provides examples of types of facility changes that may trigger an amendment. | Negligible savings | Negligible savings | Allows up to 12 months, rather than 6 months, to implement an amendment after a material change at the facility. |
| 112.5(b) | Changes period for Plan review by owner or operator from 3 to 5 years. Requires owner or operator to document that a review was completed and whether the Plan was amended. | Cost savings Negligible increase | None None | Expanding the review period from 3 to 5 years will reduce the annualized burden for review activities by approximately 40% annually. Affixing a signed statement certifying the review has taken place involves a minimal increase in the burden to review a Plan. |
| 112.5(c) | Amends section to require PE approval only for technical Plan amendments. | Negligible savings | None | Owners or operators no longer need to obtain PE certification when making non-technical changes to Plan . |
| 112.7 Spill Prevention, Control, and Countermeasures Plan general requirements | | | | |
| 112.7 | States that a Plan must be prepared in writing and in accordance with the sequence specified in this section, unless an equivalent prevention Plan acceptable to the Regional Administrator has been prepared, in which case it must be supplemented with a cross-reference. | Cost savings Cost increase | None | Allows a facility to cross-reference similar SPCC provisions in existing federal, State, or other plans to reduce paperwork-related burden. An “equivalent” plan might include a State plan, ICP, or other format. Most existing facilities, however, will need to supplement their Plan with a cross-reference. A cross-reference template is provided in the preamble, which will keep burden increase to a minimum. |
| 112.7(a) | Deletes requirement that Plan must include a description of pre-1974 spill events. | Negligible Savings | None | Deleting requirement results in a negligible burden reduction because existing facilities would have already included such a description in their Plans. |
| 112.7(a)(2) | Editorial Changes. | Baseline | Baseline | |
| 112.7(a)(3) | Requires the Plan to include a description of the physical plant, other site specific information, spill control information, and spill countermeasure information. Also requires that the Plan note the location and contents of oil in each container. | Cost increase | None | Many facilities may already have a diagram, in accordance with good engineering practice. A diagram is needed to project spill trajectories, to assist facility personnel in performing periodic inspections, and to assist in response efforts. Some facilities, mostly small ones, will have to add a diagram to their Plans. |
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| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|-------------------------------------|---|-----------------------|----------------------|---|
| 112.7(a)(4) | Requires that information in the Plan enable a person reporting a discharge as described in §112.1(b) to provide all relevant facility and spill information and actions being used to stop, remove, and mitigate the effects of the discharge. | Baseline | None | Clarification of existing requirement that all SPCC Plans be prepared according to good engineering practice. |
| 112.7(a)(5) | Requires that portions of the Plan describing procedures used after a discharge be organized in a manner to make them readily usable. | Baseline | None | The provision does not go beyond the current requirement to prepare the Plan in accordance with good engineering practice. |
| 112.7(b) | Editorial changes. | Baseline | None | |
| 112.7(c) | Requires secondary containment system to prevent a discharge as described in §112.1(b). | Baseline | None | Clarification of existing requirement. This addition does not necessarily make the regulation more stringent because it is intended to reflect industry practice. |
| 112.7(d) | Requires that if the installation of structures (e.g., secondary containment) or equipment listed in this section is not practicable, the owner or operator must explain such impracticability and conduct periodic integrity tests of containers; and periodic integrity and leak testing of valves and piping. Requires a contingency plan and commitment of manpower, equipment, and material unless an FRP was submitted. | Negligible savings | None | For those facilities that determine that such structures are impracticable, periodic testing means in accordance with industry standards (e.g., API 653). The provision does not impose additional burden on facilities because they were required to follow good engineering practices. Facilities with FRPs no longer have to have a contingency plan following part 109. |
| 112.7(e) | Allows use of usual and customary business records to serve when a record of inspections or tests is required pursuant to part 112. | Cost savings | None | By allowing usual and customary business records to meet the recordkeeping requirements for testing, the time spent by facilities to perform Plan maintenance and recordkeeping activities is diminished (e.g., NPDES records of stormwater bypass events, API 653 and 2610). (Effect estimated in 1997 proposed rule ICR.) |
| 112.7(f)(1) | Requires an owner or operator to train oil-handling personnel in the operation and maintenance of equipment, discharge procedure protocols, pollution control laws, facility operations, and the Plan. | Baseline | None | EPA is modifying current requirement to clarify that only oil-handling personnel need to be trained and is specifying additional training subjects. This is merely a clarification of good engineering practice. |
| 112.7(f)(2) | Editorial changes. | Baseline | None | |
| 112.7(f)(3) | Requires an owner or operator to schedule and conduct a discharge prevention briefing for oil-handling personnel at least once a year. | Baseline | None | Clarifies existing rule to require that discharge prevention briefing must occur at least yearly. |
| 112.7(g)(1) | Editorial changes. | None | Baseline | |
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EXHIBIT 2-2
CLASSIFICATION OF REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION

| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|--|--|-----------------------|----------------------|---|
| 112.7(g)(2) | Mostly editorial changes. | None | Negligible savings | Current §112.7(e)(9)(2) requires locks on valves. Revision gives facilities discretion of alternative security measures. |
| 112.7(g)(3) | Editorial changes. | None | Baseline | |
| 112.7(g)(4) | Editorial changes. | None | Baseline | |
| 112.7(g)(5) | Editorial changes. | None | Baseline | |
| 112.7(h)(1) | Deletes requirement to comply with DOT provisions. | Negligible decrease | Baseline | Plan no longer needs to discuss this requirement. |
| 112.7(h)(2) | Requires a warning sign or other device to prevent vehicular departure before detachment of transfer lines. | None | Negligible savings | Additional allowable methods may lead to some cost savings for a small number of facilities having tank car and tank truck loading and unloading areas. This is merely a clarification of the existing requirement. |
| 112.7(h)(3) | Editorial changes. | Baseline | None | |
| 112.7(i) | Requires a field-constructed container to be evaluated for risk of failure due to brittle fracture or other catastrophe failure after it undergoes repair, alteration, or a change in service that may affect the risk of failure, and appropriate action must be taken. | Cost increase | Negligible increase | This evaluation applies only to field-constructed aboveground containers.. |
| 112.7(j) | Editorial changes. | Baseline | None | |
| 112.8 Spill Prevention, Control, and Countermeasures Plan requirements for onshore facilities (excluding production facilities) | | | | |
| 112.8(a) | References the general requirements all facilities must meet and the specific requirements that facilities in this category must meet. | None | None | Re-organization of current §112.7. |
| 112.8(b)(1) | Editorial changes. | Baseline | None | |
| 112.8(b)(2) | Editorial changes. | None | Baseline | |
| 112.8(b)(3) | Requires that drainage systems from undiked areas that have a potential for an oil discharge be designed so that discharged oil flows into ponds, lagoons, or | None | Negligible savings | Clarifies that design requirements for facility drainage systems are applicable only for those undiked areas susceptible to oil discharges. |

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CLASSIFICATION OF REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION

| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|-------------------------------------|--|--------------------------|----------------------|--|
| | catchment basins designed to hold the oil. Catchment basins must not be located in areas subject to periodic flooding. | | | |
| 112.8(b)(4) | Editorial changes. | Baseline | Baseline | |
| 112.8(b)(5) | Editorial changes. | Baseline | Baseline | |
| 112.8(c)(1) | Editorial changes. | Baseline | Baseline | |
| 112.8(c)(2) | Editorial changes. | Baseline | Baseline | |
| 112.8(c)(3) | Allows records required for NPDES permit regulations or other similar customary business records to be used to record stormwater bypass events for SPCC purposes. | Cost savings | None | Owner or operator may use records already generated under NPDES rules to serve for SPCC purposes. (This rule section is providing a specific example of how ordinary business records may suffice for records of inspections and tests (§112.7(e)). In the 1997 Economic Analysis, EPA estimated that 16,300 oil storage and production facilities would be impacted. Savings already included under §112.7(e). |
| 112.8(c)(4) | Editorial changes. | Baseline | Baseline | |
| 112.8(c)(5) | Requires avoiding the use of partially buried or bunkered metallic tanks for the storage of oil, unless the buried section of the shell is protected by coatings or cathodic protection. | None | Negligible savings | Clarifies that partially buried tanks may be protected by cathodic protection, in addition to coatings. |
| 112.8(c)(6) | Requires that an aboveground container be tested for integrity on a regular basis and when material repairs are done. Testing must combine visual inspection along with another testing technique. Allows records of inspections and tests kept pursuant to usual and customary business practices to suffice for purposes of this section. | None Cost savings | Baseline None | Currently required as part of “good engineering practice.” API 653, which represents current industry standards for tank inspection and repair, already requires this. Savings already included under 112.7(e). |
| 112.8(c)(7) | Editorial changes. | Baseline | Baseline | |
| 112.8(c)(8) | Editorial changes. | None | Baseline | |
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EXHIBIT 2-2
CLASSIFICATION OF REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION

| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|--|---|-----------------------|----------------------|---|
| 112.8(c)(9) | Editorial changes. | Baseline | None | |
| 112.8(c)(10) | Requires that a visible discharge of oil be promptly corrected and that any accumulation in a diked area be promptly removed. | Negligible increase | Negligible increase | Modification to existing requirement under present §112.7(e)(2)(x), which only requires leaks causing accumulations in diked areas to be promptly corrected. Correction of all visible leaks, however, is standard industry practice under API 653. |
| 112.8(c)(11) | Requires that mobile or portable oil storage container be positioned to prevent a discharge and that a secondary means of containment, sufficient to contain the capacity of the largest single compartment or container (plus freeboard) be furnished. | Negligible savings | Negligible savings | Modifies existing requirement that such facilities are no longer required to be located where they will not be subject to periodic flooding and Plans no longer need to address this. Sufficient freeboard is part of good engineering practice. |
| 112.8(d)(1) | A new or replaced buried piping installation must be provided with a protective wrapping and coating and must be cathodically protected unless the corrosion protection standards in part 280 of this chapter are satisfied. Any exposed section of a buried line must be examined and corrective action must be taken. | Negligible increase | Negligible increase | Modification to existing requirement. New requirements are only for new or replaced piping installations but cathodic protection applies to all soil conditions. |
| 112.8(d)(2) | Editorial changes. | None | Baseline | |
| 112.8(d)(3) | Editorial changes. | None | Baseline | |
| 112.8(d)(4) | Requires conducting integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement. | None | Baseline | Considered a good engineering practice (e.g., API 2610). |
| 112.8(d)(5) | Editorial Changes. | None | Baseline | |
| 112.9 Spill Prevention, Control, and Countermeasures Plan for onshore production facilities | | | | |
| 112.9(a) | References the general requirements all facilities must meet as well as the specific requirements facilities in this category must meet. | None | None | Reorganization of the rule. |
| 112.9(b)(1) | Editorial changes. | Cost savings | Baseline | References §112.8(c)(3). Savings already included under §112.7(e). |
| 112.9(b)(2) | Editorial changes. | None | Baseline | |
| 112.9(c)(1) | Editorial changes. | None | Baseline | |

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CLASSIFICATION OF REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION

| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|---|--|-----------------------|----------------------|--|
| 112.9(c)(2) | Requires a secondary means of containment for the entire contents of the single largest tank in use and sufficient freeboard to allow for precipitation. | None | Baseline | Clarifies an existing requirement. Sufficient freeboard falls under good engineering practices as documented API Standard 2610, section 7.2.2. |
| 112.9(c)(3) | Requires all containers to be visually examined for deterioration and maintenance on a scheduled periodic basis. The examination must include the foundation and supports of tanks that are on or above the surface of the ground. | Negligible increase | Negligible increase | Clarifies an existing requirement. Visual examinations must include foundations and supports of tanks that are on the ground in addition to those that are above the ground. |
| 112.9(c)(4) | Editorial changes. | None | Baseline | |
| 112.9(d)(1) | Editorial changes. | Baseline | None | |
| 112.9(d)(2) | Editorial changes. | Baseline | None | |
| 112.9(d)(3) | Editorial changes. | Baseline | Baseline | |
| 112.10 Spill Prevention, Control, and Countermeasures Plan requirements for onshore oil drilling and workover facilities | | | | |
| 112.10(a) | References the general requirements all facilities must meet as well as the specific requirements facilities in this category must meet. | None | None | Reorganization of the rule. |
| 112.10(b) | Editorial changes. | None | Baseline | |
| 112.10(c) | Editorial changes. | None | Baseline | |
| 112.10(d) | Editorial changes. | None | Baseline | |
| 112.11 Spill Prevention, Control, and Countermeasures Plan requirements for offshore oil drilling, production, or workover facilities. | | | | |
| 112.11(a) | References the general requirements all facilities must meet as well as the specific requirements facilities in this category must meet. | None | None | Reorganization of the rule. |
| 112.11(b) | Editorial changes. | None | Baseline | |
| 112.11(c) | Editorial changes. | None | Baseline | |
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EXHIBIT 2-2
CLASSIFICATION OF REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION

| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|-------------------------------------|---|-----------------------|----------------------|---|
| 112.11(d) | Editorial changes. | None | Baseline | |
| 112.11(e) | Editorial changes. | None | Baseline | |
| 112.11(f) | Editorial changes. | None | Baseline | |
| 112.11(g) | Editorial changes. | None | Baseline | |
| 112.11(h) | Editorial changes. | Baseline | None | |
| 112.11(i) | Requires simulated spills for testing and inspecting human and equipment pollution control and countermeasure systems. | Baseline | Baseline | Clarification of existing requirement. Simulated spill testing requirement is also a clarification of existing practices. |
| 112.11(j) | Editorial changes. | Baseline | None | |
| 112.11(k) | Editorial changes. | None | Baseline | |
| | Deletes present §112.7(e)(7)(xii), which requires extraordinary well control measures to be provided should emergency conditions occur. | None | Negligible savings | This language is being made a preamble recommendation. |
| 112.11(l) | Editorial changes. | None | Baseline | |
| 112.11(m) | Editorial changes.. | None | Baseline | |
| 112.11(n) | Editorial changes. | None | Baseline | |
| 112.11(o) | Editorial changes. | None | Baseline | |
| 112.11(p) | Requires sub-marine piping to be maintained in good operating condition and tested or inspected on a scheduled periodic basis. Such tests or inspections must be documented and records must be kept in the facility. | Baseline | Negligible savings | Clarification of existing requirement, although requirement is amended to allow testing instead of inspection. |
| 112.12 - 112.15 (Subpart C) | Repeats requirements found under §§112.8 - 112.11 for animal fats and vegetable oils. | Baseline | Baseline | EPA is merely clarifying the applicability of the SPCC rule for these oil types. |
| 112.20(h) | | Baseline | None | Revision is intended to track SPCC language in §112.7 and is intended as an editorial change, not a substantive one. |

EXHIBIT 2-2
CLASSIFICATION OF REVISIONS TO THE OIL POLLUTION PREVENTION REGULATION

| Final Section of 40 CFR part 112 | Final Rule | Burden Classification | Capital Requirements | Comments |
|-------------------------------------|--|-----------------------|----------------------|----------|
| | Provides that a response plan must follow the format of the model facility-specific response plan unless an equivalent response plan has been prepared that is acceptable to the Regional Administrator. | | | |

2.4 ESTIMATING THE NUMBER AND SIZE DISTRIBUTION OF AFFECTED FACILITIES

Estimating the economic effects of the final revisions requires an accurate picture of the regulated community. Extensive studies were conducted to characterize the facilities that exceed the Oil Pollution Prevention regulation underground and aboveground oil storage capacity thresholds.⁸ For the purposes of this analysis, the results of these studies are presented in terms of:

- The **number** of facilities above the Oil Pollution Prevention regulation oil storage capacity thresholds;
- The **size** of these facilities, in terms of tank storage capacity and number of containers at each facility; and
- The **category** of facility.

The aggregate effects of some regulatory revisions depend not only on the total number of facilities meeting the capacity thresholds, but on other factors such as facility size. Therefore, data are organized in a way that facilitates calculation of the economic effects of the final revisions. The information on the number, size, and category of affected facilities is presented in Chapter 3. The remainder of this section presents the method by which this information is assembled and used in the estimation of economic effects.

Number of Facilities. For production and storage facilities in most industrial categories, the baseline number of facilities was determined by the 1995 SPCC Survey. As described in the analysis titled “Analysis of the Number of Facilities Regulated by EPA’s SPCC Program,” however, a few industry categories were not sampled or had a response rate too low to allow extrapolation.⁹ In those industry categories, estimates of the number of facilities from the 1991 SPCC Facilities Study were used to supplement the Survey totals.

For a few other industry categories, the Survey analysis was thought to underestimate the national number of SPCC facilities, while the Facilities Study was thought to overestimate these facilities. In these cases, the midpoint of Survey and

⁸ EPA conducted the following two surveys to determine the scope and characteristics of the regulated community: (1) U.S. Environmental Protection Agency, *Spill Prevention, Control, and Countermeasures Facilities Study*, January 1991; and (2) U.S. Environmental Protection Agency, *Analysis of the Number of Facilities Regulated by EPA’s SPCC Program*, 1996.

⁹ U.S. Environmental Protection Agency, *Analysis of the Number of Facilities Regulated by EPA’s SPCC Program*, 1996.

Facilities Study estimates for these industry categories was selected for use in calculating an adjusted national estimate. Adjustments to the estimate were also made to reflect the fact that the survey design limited sampling to the 48 contiguous States. Following this adjustment and validation process, EPA arrived at an adjusted national estimate of the number of facilities subject to the SPCC regulation for each industry category in 1995. This estimate was then inflated by a one percent annual growth rate to yield an estimate of the number of facilities subject to the SPCC regulation prior to these revisions.

Facility Characteristics. For the purpose of this analysis, it is assumed, based on data contained in the 1991 SPCC Facilities Study that facilities in each size category (prior to the final revisions) have the following number of oil storage containers:

- Small facilities (total aboveground storage capacity greater than 1,320 gallons but less than or equal to 42,000 gallons) – 2 containers;
- Medium facilities (total storage capacity greater than 42,000 gallons but less than or equal to one million gallons) – 7 containers; and
- Large facilities (total storage capacity greater than one million gallons) – 17 containers.

Results of the 1995 SPCC Survey confirm that these estimates of the number of containers at an average facility in each size category are reasonably accurate. The 1995 SPCC Survey also subdivides the SPCC-regulated facilities by Standard Industrial Classification (SIC) code among a wide variety of industry and business types. However, for purposes of this analysis, facilities were grouped into two distinct categories: production facilities (facilities whose operations and oil storage activities primarily involve oil production) and storage facilities (all other SPCC-regulated facilities). Also, facilities were divided into existing and new facilities.

Facility Category. To facilitate the use of the data, regulated facilities were categorized into several North American Industrial Classification System (NAICS) categories, including those associated with petroleum production, processing (refining), distribution, and consumption. EPA's 1995 SPCC Survey and the 1991 SPCC Facilities Study determined that the majority of regulated facilities fall into several industry sectors. These sectors and the corresponding NAICS codes are presented in Exhibit 2-3.

EXHIBIT 2-3

Primary Industry Sectors and NAICS Codes Covered by the SPCC Regulation¹⁰

| CATEGORY | NAICS Codes |
|--|--|
| Crop and Animal Production | 111-112 |
| Crude Petroleum and Natural Gas Extraction | 211111 |
| Coal Mining, Non-Metallic Mineral Mining and Quarrying | 2121/2123/213114/213116 |
| Electric Power Generation, Transmission, and Distribution | 2211 |
| Heavy Construction | 234 |
| Petroleum and Coal Products Manufacturing | 324 |
| Other Manufacturing | 31-33 |
| Petroleum Bulk Stations and Terminals | 42271 |
| Gasoline Stations/Automotive Rental and Leasing | 4471/5321 |
| Heating Oil Dealers | 454311 |
| Transportation (including Pipelines), Warehousing, and Marinas | 482-486/488112-48819/ 4883/48849/492-493/71393 |
| Elementary and Secondary Schools, Colleges | 6111-6113 |
| Hospitals/Nursing and Residential Care Facilities | 622-623 |

Estimation of the number of facilities by industry category and size group allows the economic analysis to reflect costs that vary by industry or size, thereby providing more detailed and more accurate results.

2.5 UNIT COST ESTIMATES

Unit costs were developed for the non-negligible final provisions. Unit costs to an existing facility for the finalized revisions and, where applicable, corresponding provisions are given as follows:

- Five-year Review - §112.5(b);

¹⁰ NAICS Codes and the corresponding SIC codes can be found in the Federal Register at 61 FR 57006, November 5, 1996.

- Oil Discharge - §112.4(c);
- Plan Modification - §112.5(a);
- Recordkeeping - §112.7(e);
- Cross-Reference Matrix - §112.3(a);
- Facility Diagram - §112.7(a)(3);
- Brittle Fracture Records - §112.7(i); and
- Costs to Read and Understand the Rule.

Unit costs to a new facility for the finalized revisions and, where applicable, corresponding provisions are given as follows:

- New Plan - §112.3(a);
- Oil Discharge - §112.4(c);
- Plan Modification - §112.5(a); and
- Recordkeeping.

2.6 TOTAL COSTS OF PROPOSED REVISIONS

Once unit costs are established for the final revisions, the total costs are estimated by multiplying unit costs estimates by the estimated number of affected facilities. For example, the economic effect of a revision that affects each facility, independent of facility size, is estimated by multiplying the unit costs of the revision by the total number of facilities affected by the final rule. Alternatively, the cost of a final revision that depends on facility size is estimated by multiplying the number of small, medium, and large facilities by the respective unit costs that small, medium, and large facilities would likely incur in complying with the provision. Chapter 3 presents the results of the total cost calculations for the final rule and regulatory alternatives in terms of:

- First-year costs incurred by small, medium, and large facilities;
- Subsequent-year costs incurred by small, medium, and large facilities; and
- Costs incurred over a 10-year period.

CHAPTER 3

ESTIMATED UNIT COSTS AND TOTAL COSTS OF COMPLIANCE

This chapter presents estimates of the unit costs to a facility of complying with the final revisions to the Oil Pollution regulation and provides the corresponding data and assumptions used to derive these estimates. The unit costs estimates are developed according to the general methodology described in Chapter 2 and are combined with the number of affected facilities estimated in section 3.4 to yield estimates of the total costs of the final revisions.

As described in Chapter 2, for purposes of this Economic Analysis, the final revisions to the Oil Pollution Prevention regulation have been classified into the following five categories: baseline, cost increase, negligible increase, cost savings, or negligible savings. Baseline provisions are assumed to represent current industry practices or standards and/or good engineering practices already required by the existing regulation. Therefore, baseline provisions are assumed to result in neither incremental costs nor benefits attributable to this final rule. Provisions classified as negligible increase or negligible savings are mandatory requirements but are assumed to impose costs on facilities that are minimal in the aggregate relative to the total costs of the non-negligible provisions. Provisions classified as cost increase or cost savings are expected to result in non-negligible costs or cost savings, and are estimated in this chapter.

Because certain unit costs are likely to vary by facility size, this EA develops separate unit cost estimates for small, medium, and large facilities, where appropriate. Section 3.1 outlines the data collection process used to estimate costs. Section 3.2 presents the wage rates used in the unit cost estimates. Section 3.3 presents the unit cost estimates for facilities by provision. The universe of regulated facilities is estimated in section 3.4. Finally, section 3.5 details the total costs incurred by regulated facilities.

3.1 DATA COLLECTION

To collect data for the estimation of unit costs, selected EPA Regional personnel, State officials, and contractor staff with experience in the existing SPCC program and a knowledge of the costs and level of effort involved in developing and implementing spill prevention programs and contingency plans were contacted. Additionally, data from the Spill Prevention, Control, and Countermeasures (SPCC) Facilities Study and a review of SPCC-related studies provided information useful for the development of the unit cost estimates. Unit cost data were obtained from various engineering cost documents. The collection of primary data from SPCC-regulated facilities or industry trade associations was beyond the scope of this report.

Given the number and diversity of facilities subject to the SPCC requirements, developing a set of unit cost estimates that accurately reflects the amount facilities will expend to comply with the final revisions is difficult. Unit compliance costs may vary not only by size of facility but also by container configuration, geographic location, industry, facility age, and other factors. In addition, for some final revisions in which unit costs are estimated, a facility has several alternatives regarding how it may comply. These compliance alternatives will vary on a facility-by-facility basis. Thus, the data collected on unit costs from regulatory officials and contractor personnel often are fragmentary and subjective. Developing a myriad of unit cost estimates that capture all factors affecting the costs of compliance with each revision, however, is beyond the scope of this report. Hence, the unit cost estimates presented below should be considered representative of the possible costs to be incurred by facilities, rather than precise estimates of the actual costs that will be incurred.

3.2 WAGE RATES

To determine the unit costs for typical new and existing respondents in each size category, the unit time estimates for compliance activities are multiplied by the hourly wage rates for the appropriate categories of labor conducting these activities. The labor wage rates for private industry are derived from the U.S. Department of Labor's Employment Cost Indexes and Levels.¹¹ The 1999 wage rates include wages and salaries; benefit costs, including paid leave, supplemental pay, insurance, retirement and savings, legally required benefits, severance pay, and supplemental unemployment benefits. EPA further adjusted these rates to reflect associated overhead costs.¹² These wage rates reflect private industry averages, which were estimated by the Bureau of Labor Statistics (BLS) based on a survey of 22,000 occupations within 4,200 establishments in the private sector. These wage rates reflect industry averages, which may underestimate the actual wages received by some SPCC regulated facility personnel but overestimate the actual wage rate received by other facility personnel. The estimated wage rates used in the analysis are:

| | |
|-------------|-------------------|
| Management: | \$41.68/hour; |
| Technical: | \$30.96/hour; and |
| Clerical: | \$19.41/hour. |

¹¹ United States Department of Labor, Bureau of Labor Statistics, *Employer Costs for Employee Compensation*, March 1999.

¹² Overhead costs were computed separately from BLS data and were assumed to be an additional 17 of the total wage rate, which is comprised of direct wages and salaries and employee benefits, as reported by BLS. The March 1999 wage estimates were adjusted to June 1999 estimates using the U.S. Department of Labor's June 1999 Employment Cost Index for private industry.

3.3 UNIT COSTS

The basis for each unit cost estimate is explained in this section. Unit costs estimates are calculated for revised provisions that are expected to affect the burden posed to a facility. Of these revised provisions, the vast majority are intended to reduce the overall burden to a regulated facility. Specifically, the changes to the rule that EPA expects to affect the burden of the SPCC program are:

- Final 40 CFR 112.1(d)(2)(i) and 112.1(d)(4). EPA is no longer regulating under the SPCC program a completely buried tank that is subject to all of the technical requirements of 40 CFR part 280 or of a State program approved under 40 CFR part 281.
- Final 40 CFR 112.1(d)(2)(ii). EPA is no longer regulating a facility having a single container with a storage capacity greater than 660 gallons, but aggregate aboveground storage capacity of 1,320 gallons or less of oil.
- Final 40 CFR 112.1(d)(5). EPA is no longer regulating any container with a storage capacity of less than 55 gallons of oil.
- Final 40 CFR 112.1(f). EPA is granting its Regional Administrators the authority to require any facility subject to the jurisdiction of EPA under section 311(j) of the CWA, but otherwise exempt from the requirement to prepare an SPCC Plan under part 112, to prepare and implement a total or partial SPCC Plan where necessary to carry out the purposes of the CWA.
- Final 40 CFR 112.3(a). EPA is requiring an SPCC-regulated facility to amend its SPCC Plan to conform with the new sequence and requirements of the final rule, if necessary, within six months of the effective date of the final rule and to implement the Plan within 12 months.
- Final 40 CFR 112.3(e)(1). EPA is changing from eight hours to four hours the minimum number of hours that a facility must be attended for it to be required to maintain a copy of an SPCC Plan on the premises.
- Final 40 CFR 112.4(a). EPA is changing the threshold for submission of information following certain discharges and is reducing the amount of information that must be submitted to the Agency after such discharges.
- Final 40 CFR 112.5(b) and (c). EPA is changing the Plan review period from three to five years and is requiring the owner or operator of a facility to document the completion of the review and evaluation. A Professional Engineer's (PE)

certification of a Plan amendment will now only be required for technical changes made to the Plan.

- Final 40 CFR 112.7. EPA is allowing an owner or operator to use an alternate format from that specified in the rule if the format is acceptable to the Regional Administrator, meets all applicable rule requirements or is supplemented so that it does, and is cross-referenced to those requirements.
- Final 40 CFR 112.7(a)(2). EPA is allowing a facility to deviate from most substantive requirements if the owner or operator explains his reasons for nonconformance and provides equivalent environmental protection.
- Final 40 CFR 112.7(a)(3). EPA is requiring an SPCC-regulated facility to include with its Plan a facility diagram, which must mark the location and contents of each container.
- Final 40 CFR 112.7(d). EPA is exempting the owner or operator of a facility which has submitted a Facility Response Plan (FRP) from the requirement to provide a contingency plan and a written commitment of manpower, equipment, and materials to expeditiously control and remove any quantity of discharged oil that may be harmful.
- Final 40 CFR 112.7(e). EPA is allowing records of inspections and tests kept under usual and customary business practices to suffice for records of inspections and tests required under part 112.
- Final 40 CFR 112.7(i). EPA is requiring the owner or operator to evaluate a field-constructed aboveground container for risk of discharge or failure due to brittle fracture or other catastrophe when the container undergoes a repair, alteration, or a change in service that might affect the risk of brittle fracture or other catastrophe.

The effect that each of these changes is expected to have on burden and costs is discussed in greater detail below. In addition to these changes, EPA has also estimated the burden and costs that will be incurred by facilities to read and understand the final rule, which is discussed at the conclusion of this section.

3.3.1 40 CFR 112.1(d)(2)(i) and 112.1(d)(4)

EPA has decided to no longer regulate, under the SPCC program, a completely buried tank that is also regulated under the UST program (40 CFR part 280 or a State program approved under 40 CFR part 281). This decision decreases both the number of regulated facilities as well as the overall burden for some other facilities that will continue to be regulated under the SPCC program. In total, about 30,000 facilities will be affected by this change. EPA believes, based on Survey data, that a little over 13,000 facilities will no longer be regulated under the SPCC program as a result of this change. These facilities represent those that are SPCC-regulated because they have a completely buried storage capacity in excess of 42,000 gallons that is also regulated by the UST program. The remaining 17,000 facilities,

although they will continue to be regulated under the SPCC program due to their aboveground storage capacity, will experience a significant reduction in burden because their Plans will no longer have to include a discussion of their completely buried tanks. As a result, the burden reduction to some large facilities will make them more similar to a medium facility and some medium facilities will experience a burden reduction that will make them more like a small facility. The effect that this change is expected to have on the number and makeup of regulated facilities is discussed in greater detail in section 3.4.1 of this document.

3.3.2 40 CFR 112.1(d)(2)(ii)

EPA is no longer regulating a facility under the SPCC program merely because it has a single container with an aboveground storage capacity of greater than 660 gallons of oil. Instead a facility must have an aggregate aboveground capacity of greater than 1,320 gallons to be regulated.

Analysis of the Survey data showed that about 10.5 percent of small facilities would no longer be regulated if this option was enacted. As a result, EPA expects that about 38,496 small facilities will no longer be regulated (38,115 existing facilities and 381 new facilities). Of this total, approximately 70 percent, or about 28,800 facilities are small farms. Other industries that are likely to experience a significant decrease in the number of regulated facilities include primary and secondary schools and colleges as well as gasoline service stations. The remaining number of facilities are evenly distributed among the manufacturing and transportation sectors of the economy. The effect that this change is expected to have on the number and makeup of regulated facilities is discussed in greater detail in section 3.4.1 of this document.

3.3.3 40 CFR 112.1(d)(5)

EPA has also decided to no longer regulate a container having an oil storage capacity less than 55 gallons. Facilities are expected to benefit from this change in two ways. First, facilities will no longer have to include a discussion of these containers in their SPCC Plans and second, these containers will no longer count in determining a facility's total oil storage capacity. EPA believes that in the event of an oil spill, the amount of oil that would be spilled from containers of this size poses a minimal threat to the environment, which does not warrant the burden to facilities to discuss prevention, control, and countermeasure procedures in their SPCC Plans.

As a result of this change, some facilities will likely no longer be regulated under the SPCC program. These facilities most likely are retail establishments that sell large quantities of oil in small containers (e.g., quarts of motor oil). While relatively few of these facilities were likely to be regulated under the SPCC program, EPA realized the potential that some could have been regulated due to their large volumes of inventory and thus has modified the rule to no longer regulate such facilities.

Many other SPCC-regulated facilities are also likely to benefit from this change as they no longer must include a discussion in their SPCC Plans on the procedures and equipment used to prevent the discharge of oil from small containers. This would primarily affect new facilities as existing facilities would have already incurred the burden to discuss these containers in their Plans. Existing facilities would benefit during their formal SPCC five-year review as they no longer would have to update their discussion of these containers. Because only a small number of facilities enter the SPCC program each year and because only a fraction of these facilities would expend a significant portion of their burden preparing an SPCC Plan to discuss small containers, EPA has chosen not to quantify the burden reduction associated with this rulemaking to avoid overestimating the effects.

3.3.4 40 CFR 112.3(a)

EPA is requiring an SPCC-regulated facility to amend its SPCC Plan to conform with the new sequence and requirements of the rule within six months of the effective date of the final rule and another six months to implement any amendments made to the Plan. EPA had originally proposed to allow facilities 60 days from the date of the final rule to maintain and prepare a fully implemented SPCC Plan, but was persuaded by commenters to extend this period.

Because the format and sequence of the rule has changed substantially and because many facilities will find that their existing SPCC Plan no longer follows the new sequence of the rule, EPA is providing a cross-reference template for facilities. This template is found in the preamble to the rule and lists each requirement in the final rule, provides the corresponding paragraph of the previous rule, and leaves a space where a facility can display the location of the provision in its Plan.

While some facilities may need to make minor amendments to their Plan as a result of the final rule, the majority of facilities most likely will not need to make any significant revisions beyond preparing the cross-referencing matrix as it is assumed that these facilities already have SPCC Plans in good standing. New facilities are not expected to incur this burden as it is expected that they will prepare their Plans in accordance with the new sequence of the rule.

Exhibit 3-1 summarizes the estimated burden likely to be incurred by each type of model facility to complete the cross-reference matrix and append it to their existing SPCC Plan. The exhibit shows that it will require approximately one-half hour of a technical person's time to complete the matrix and attach it to his facility's Plan. The burden associated with this activity is not expected to vary significantly among different types of model facilities because this activity is more closely related to the sequence of the new rule and format of the existing Plan and not to the total storage capacity of a facility.

Exhibit 3-1
Facility Unit Burden and Cost
Cross-Reference Matrix

| Type of Facility | Burden Hours | | | Unit Burden Hours | Labor Cost |
|------------------|--------------|-----------|----------|-------------------|------------|
| | Managerial | Technical | Clerical | | |
| Small | 0.0 | 0.5 | 0.0 | 0.5 | \$15 |
| Medium | 0.0 | 0.5 | 0.0 | 0.5 | \$15 |
| Large | 0.0 | 0.5 | 0.0 | 0.5 | \$15 |

EPA understands that some facilities may elect to reorganize their Plans to follow the new sequence of the rule. However, EPA believes that most of these facilities would only elect to undergo this additional burden if other significant amendments need to be made to the Plan. Such an activity would likely occur during a formal review period of the Plan, in which case, the burden associated with reorganizing the Plan would be incidental to the baseline burden associated with making amendments.

3.3.5 40 CFR 112.3(e)(1)

EPA has changed from eight hours to four hours the minimum number of hours that a facility must be attended for it to be required to maintain a copy of an SPCC Plan on the premises. In the event that a facility is manned less than four hours a day, the Plan must be kept at the nearest field office.

EPA has made this change because the Agency believes that it is important to have a copy of the Plan located at the facility in the event of an oil discharge and because a small number of facilities mistakenly believed that they did not need to keep a copy of the SPCC Plan at the facility if the facility was manned by an individual working seven and one-half hours at the facility with an additional one-half hour for

lunch. While EPA has amended the rule to clarify that a copy of the Plan must be kept at a facility unless it is principally unmanned during the day, this amendment will have relatively little effect on the overall burden of the SPCC program because the Plan previously must have been kept and maintained at the nearest field office if not at the facility.

3.3.6 40 CFR 112.4(a)

EPA is reducing the information that a facility owner or operator must submit to the Agency after certain discharges as well as raising the threshold for the size of discharges that trigger submission under §112.4(a). To begin, EPA had required that an owner or operator of a facility subject to the SPCC rule provide certain information to EPA after a discharge of 1,000 gallons of oil into or upon the navigable waters of the United States or adjoining shorelines in a single event, or when two reportable spills occur within any twelve month period. Reportable discharges are defined at 40 CFR 110.3. The information EPA required includes:

- The name of the facility;
- Name(s) of the owner or operator of the facility;
- Location of the facility;
- Date and year of initial facility operations;
- Maximum storage or handling capacity of the facility and normal daily throughput;
- Description of the facility, including maps, flow diagrams, and topographic maps;
- A complete copy of the SPCC Plan with any amendments;
- The cause(s) of such spill, including a failure analysis of system or subsystem in which the failure occurred;
- The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements;
- Additional preventive measures taken or contemplated to minimize the possibility of recurrence; and
- Such other information as the Regional Administrator may reasonably require pertinent to the Plan or spill event.

EPA is revising this list of information, to be provided to the RA in the event of a reportable discharge under §112.4(a), to no longer include a complete copy of the SPCC Plan in the report. Furthermore, EPA has clarified in the final rule that a facility must only include maps, flow diagrams, and topographic maps as necessary to describe the facility and discharge. In some instances, a facility may still need to submit this information if the RA deems it appropriate.

EPA is also raising the threshold for the size of discharges that trigger submission under the final rule. First, EPA is establishing a *de minimis* spill volume of 42 U.S. gallons for a facility to use in determining whether or not a discharge reportable to the National Response Center under 40 CFR part 110 counts towards one of the two discharges under 1,000 gallons also reportable to EPA. EPA is also clarifying in the final rule that facilities are subject to a “rolling basis” for purposes of tracking discharges under §112.4(a). Under a rolling basis, each reportable discharge under §112.4(a) triggers the start of a new twelve month reporting period.

While EPA believes that these changes to the rule will cause many facilities that experience discharges to incur less of a reporting and recordkeeping burden, the remote possibility that any one particular facility would experience either a 1,000 gallon discharge or two reportable discharges under §112.4(a) within a twelve month period is so small that the cumulative information burden that would be reduced by these changes for the entire regulated universe of facilities is negligible.

3.3.7 40 CFR 112.5(b) and (c)

EPA has extended the period in which an owner or operator must review and evaluate a facility's SPCC Plan from three to five years. EPA is making this change because it believes that an extension of the review period will reduce the information collection burden, while causing little or no increased risk to the environment.

EPA is also requiring a facility owner or operator to document when a review of the Plan has been completed and to state whether the Plan was amended as a result of the review. This requirement, however, does not add to the burden of the SPCC program as defined by the Paperwork Reduction Act because it falls outside the definition of information found at 5 CFR part 1320.¹³ In any event, the requirement represents a negligible increase to the time needed to review the Plan.

EPA has also amended the SPCC rule under 40 CFR 112.5(c) to provide that a Professional Engineer need only certify technical amendments made to the SPCC Plan. This also is expected to result in a minor burden reduction for facilities as the rule previously stated that any amendment needed to be certified by a PE. However, EPA believes, for purposes of this analysis, that the effect of this change on the cumulative burden of the program will be minimal and therefore did not quantify this effect to avoid overstating burden reduction.

The overall effect of expanding the review period from once every three years to once every five years is expected to reduce the annual unit burden associated with the review process by 0.6 hours for an average small facility, 0.9 hours for a medium facility, and 1.3 hours for a large facility. These estimates were derived by dividing the estimated unit burden associated with performing a review by five, rather than three, to estimate the average annual burden per facility. EPA notes that no facility owner or operator will have to perform the five-year review in the first two years following the implementation of this rulemaking. This results from the fact that all existing facilities are assumed to have performed a review within the past three years to comply with the previous requirements of this rule. **Exhibit 3-2 presents the estimated burden reduction for an average small, medium, and large facility to complete this activity** in the first and second years following the rulemaking as well as in subsequent years.

EXHIBIT 3-2
Estimated Reduction in Unit Burden Hours and Unit Costs
Five-Year Review
Average Facility
(First and Second Years / Subsequent Years)

| Type of Facility | Annual Burden Hours | | | Unit Burden Hours | O&M Costs | Unit Cost |
|------------------|---------------------|---------------|---------------|-------------------|---------------|------------------|
| | Managerial | Technical | Clerical | | | |
| Small | (0.3) / (0.1) | (1.0) / (0.4) | (0.2) / (0.1) | (1.5) / (0.6) | (\$5) / (\$2) | (\$53) / (\$21) |
| Medium | (0.3) / (0.1) | (1.6) / (0.7) | (0.3) / (0.1) | (2.3) / (0.9) | (\$3) / (\$1) | (\$73) / (\$29) |
| Large | | (2.7) / (1.1) | (0.3) / (0.1) | (3.4) / (1.3) | (\$2) / (\$1) | (\$106) / (\$42) |

3.3.8 40 CFR 112.7

EPA has amended the definition of an acceptable SPCC Plan to include a plan that deviates from the sequence of the rule. Such plans may include State plans, Integrated Contingency Plans, and any other formats acceptable to the Regional Administrator. When such plans are substituted for a formal SPCC Plan (i.e., one that follows the sequence of the rule) it must include a cross-reference to identify the

¹³ The rule suggests the facility owner or operator use following statement to fulfill the requirement: “I have completed review and evaluation of the SPCC Plan for (name of facility) on (date) and will (will not) amend the Plan as a result.”

provisions of the plan to the requirements listed in the SPCC rule. All of the requirements in the SPCC rule must be addressed. If they are not all addressed in the equivalent plan, then the plan must be supplemented to include unaddressed requirements.

To develop burden reduction estimates associated with allowing the use of a plan prepared to meet State requirements, EPA conducted an analysis that compared State regulations to SPCC requirements at 40 CFR part 112. The analysis revealed that 19 States had prevention planning requirements pursuant to State law. In certain cases, State law closely tracks or incorporates by reference Federal SPCC requirements. In other cases, the degree of overlap is less complete but is still substantial. Based on a careful comparison of State regulations with a list of major SPCC planning requirements, EPA divided the 19 States into three overlap groups (complete, substantial, or partial), depending on the degree of overlap between the Federal and State requirements.

Another factor that EPA considered is that many State prevention planning regulations apply to a smaller universe of facilities than is regulated by the SPCC program. Using data on oil production wells, farms, and U.S. Census establishments in each State, the Agency estimated the fraction of Federal SPCC-regulated facilities nationwide that were in each overlap group. The analysis took into account specific limits and exemptions in State programs when estimating the size of the regulated community. The Agency made separate estimates for production and storage facilities in the small, medium, and large categories. These estimates are presented in Exhibit 3-3. Overall, there are about 26,300 facilities regulated by both EPA and the State in the group of States with complete overlap (an estimated six States), about 24,800 in the group with substantial overlap (an estimated six States), and about 25,000 in the group with partial overlap (an estimated seven States).

EXHIBIT 3-3
Estimated Number and Percentage of Existing Facilities With Overlap
Between Federal and State Requirements
(First Year)

| | Small | Medium | Large | Total |
|----------------------------|----------------|-------------------|------------------|-------------------|
| Complete Overlap | 15,200 (4.4%) | 9,100 (11.2%) | 2,000 (15.1%) | 26,300 (5.9%) |
| Substantial Overlap | 14,400 (4.1%) | 8,500 (10.4%) | 1,900 (14.4%) | 24,800 (5.6%) |
| Partial Overlap | 14,400 (4.1%) | 8,600 (10.5%) | 2,000 (15.1%) | 25,000 (5.7%) |
| Total | 44,000 (12.7%) | 26,200 (32.1%) | 5,900 (44.6%) | 76,100 (17.2%) |

Finally, to develop the estimates of reduced regulatory burden, EPA multiplied the baseline hours burden by both the percentage of facilities in each overlap category and the degree of overlap (i.e., 100 percent for complete overlap, 75 percent for substantial overlap, and 50 percent for partial overlap). EPA recognizes that the burden reduction is offset somewhat by the need to develop a cross-reference and adjusted its estimate of burden reduction appropriately. Thus, the burden after the regulatory change reflects both the number of regulated facilities in the affected States and the amount of similarity between the State and Federal regulatory requirements. Exhibit 3-4 shows the total number of burden reduction hours that EPA

expects to realize as part of this expansion of the definition of an acceptable SPCC Plan.¹⁴

EXHIBIT 3-4

Total Number of Hours Estimated to be Spent by SPCC-Regulated Facilities Complying with Similar State Requirements
(First Year)

| | Small | Medium | Large | Total |
|---------------------|---------|---------|--------|---------|
| Existing Facilities | 117,350 | 104,734 | 47,894 | 269,977 |
| New Facilities | 13,625 | 12,697 | 4,624 | 30,946 |
| Total | 130,974 | 117,431 | 52,518 | 300,923 |

These estimates represent approximations in order to account for the burden reduction that might result from this regulatory action. EPA recognizes that other States are in the process of developing prevention planning rules and the Agency will revise estimates at a future point in time to account for such new developments. In addition, the Agency notes that the ultimate determination of whether a plan prepared pursuant to State regulations is acceptable as an SPCC Plan will be made by EPA Plan reviewers on a case-by-case basis. On average, EPA believes that the estimate provided as part of this analysis is a reasonable indicator of the degree of burden reduction that is afforded by this added flexibility. The Agency intends to develop guidance for Regional personnel to facilitate the review of plans prepared pursuant to State regulations and promote the use and acceptance of alternate formats.

It is important to note that the definition of "SPCC Plan" to include State "SPCC" plans would not reduce the actual universe of regulated facilities. Facilities with such State plans would not be exempt from the regulation; however, because the information collection burden associated with preparing these plans would be imposed regardless of Federal requirements, it has not been included as part of this EA.

3.3.9 40 CFR 112.7(a)(2)

EPA is allowing a deviation from most of the rule's substantive requirements provided that equivalent environmental protection is provided and that the Plan contains a reason for nonconformance with the requirement(s). This revision explicitly allows deviations for

¹⁴ To incorporate the overlap between State and Federal requirements into this analysis, the unit burden estimates were revised downwards to account for the overlap. Additional changes to the estimates were then incorporated to create unit burden estimates averaged for all regulated facilities and to eliminate the possibility of double-counting benefits or costs. These average estimates were then multiplied by the universe of regulated facilities to obtain total industry costs.

SPCC requirements other than just secondary containment, which most likely will decrease the capital-related costs for some facilities. This revision arguably provides the greatest flexibility for facilities in complying with the requirements of this rule. The paperwork burden remains the same because the owner or operator now has the same flexibility in the current rule for the application of good engineering practice.

3.3.10 40 CFR 112.7(a)(3)

EPA has added a new requirement requiring a facility owner or operator to describe the physical layout of the facility and to include a facility diagram in the Plan. This facility diagram must include the location and contents of all containers above the *de minimis* container size, including completely buried tanks that are exempt from other SPCC requirements. The diagram must also include all facility transfer stations and connecting pipes.

EPA is requiring this information because it is used for effective prevention, planning, management (e.g., inspections), and response considerations. It is also necessary for all facilities, large or small, because container-specific information helps an inspector to verify whether a Plan is needed (by evaluating whether the product stored is oil); to verify capacity calculations; and to formulate contingency planning calculations if such planning is necessary.

Although there is no specific counterpart in the previous version of the rule, the previous version has required a facility owner or operator to include in his Plan a prediction of the direction, rate of flow, and total quantity of oil, which could be discharged from the facility as a result of each major type of failure (40 CFR part 112.7(b)). To comply with this requirement, many facilities have needed to prepare facility diagrams. The rule has also required a facility to conduct periodic integrity testing of aboveground storage tanks (40 CFR part 112.7(e)(2)(D)), which would require a facility diagram to assist inspectors in locating such tanks.

EPA has observed, based on facility inspections, that many facilities have already prepared and use such diagrams. This is especially true for the larger and more complex facilities. For these facilities, it would entail minimal burden to formally incorporate an existing facility diagram into their Plan. EPA believes that it will require such a facility only about 15 minutes of clerical time to include a previously prepared diagram in their SPCC Plan. This estimate is based on the time required to either copy the diagram or print out an electronic copy and place it in the Plan and update the table of contents.

EPA is aware, however, that many facilities, especially smaller facilities, most likely have not prepared such diagrams as part of their normal business operations. As a result, EPA has calculated the burden for facilities to prepare these diagrams and include them in their SPCC Plans. For a small model facility having two containers, EPA estimates that it will require approximately one hour of technical time and one-half hour of clerical time to mark the location and contents of the containers at the facility including the facility's transfer stations and connecting pipes. EPA estimates that approximately 25 percent of the total number of small facilities have already prepared facility diagrams, so only 75 percent of the small facilities would incur this burden.

For a medium model facility, having seven containers, EPA estimates that it will require approximately two hours of technical time and one-half hour of clerical time to develop such a diagram. EPA estimates that about one-half of the medium facilities have already prepared diagrams and only need to place a copy of the diagram in the SPCC Plan. For large facilities, EPA believes that it is most likely that all of these facilities have previously prepared diagrams. As a result, large facilities, in addition to small and medium facilities that have already prepared a diagram, will require only about 15 minutes of clerical time to include the diagram in their SPCC Plan. Exhibit 3-5 summarizes EPA's weighted average estimate of the burden likely to be incurred by facilities to prepare this information based on the percentages of facilities in each category likely to have previously prepared facility diagrams.

EXHIBIT 3-5
Estimated Weighted Burden Associated with
Preparing Facility Diagrams

| Type of Facility | Annual Burden Hours | | | Unit Burden Hours | Unit Cost |
|------------------|---------------------|-----------|----------|-------------------|-----------|
| | Managerial | Technical | Clerical | | |
| Small | 0.0 | 0.8 | 0.4 | 1.2 | \$31 |
| Medium | 0.0 | 1.0 | 0.3 | 1.4 | \$37 |
| Large | 0.0 | 0.0 | 0.25 | 0.25 | \$5 |

3.3.11 40 CFR 112.7(d)

EPA has revised this section to require a facility that has determined it is not practicable to install the structures or equipment listed in §§ 112.7(c), 112.8(c)(2), 112.9(c)(2), 112.10(c), 112.12(c)(2), 112.12(c)(11), 112.13(c)(2), and 112.14(c) to conduct periodic integrity testing of the affected containers, and periodic integrity and leak testing of valves and piping. While the previous section of this rule did not explicitly require facilities to conduct periodic integrity testing of equipment affected by part 112, EPA has defined periodic integrity testing to mean in accordance with industry standards (e.g., API 653). As a result, EPA does not believe that this additional language constitutes an additional recordkeeping burden on facilities as it is merely codifying usual and customary business practices.

EPA is exempting the owner or operator of a facility which has submitted a Facility Response Plan (FRP) from the requirement to provide a contingency plan and a written commitment of manpower, equipment, and materials to expeditiously control and remove any quantity of discharged oil that may be harmful. EPA believes that this exemption will result in negligible cost savings to facilities due to both the low number of FRP facilities and the minor unit cost savings.

3.3.12 40 CR 112.7(e)

EPA has revised the rule to explicitly allow the use of records of inspections and tests kept pursuant to usual and customary business practices to suffice for records of inspections and tests that must be performed and maintained in accordance with written procedures developed for the facility. The rule also allows for these records to be kept separately from the SPCC Plan. EPA believes that these revisions will eliminate a facility's practice of keeping duplicate records for purposes of the SPCC rule.

Examples of records of inspections and tests may include records of stormwater bypass events that are required pursuant to 40 CFR part 122. Part 122 contains the National Pollution Discharge Elimination System (NPDES) program rules, promulgated pursuant to Clean Water Act authority. Among other requirements, the NPDES rules require documentation of a discharge of rainwater from a diked area into a storm drain or an effluent discharge that empties into an open water course, lake, or pond, and bypasses the in-plant treatment system. The NPDES rules serve the same objective as the SPCC requirement formerly at § 112.7(e)(2)(iii)(D), and would therefore be acceptable to satisfy the SPCC requirement. This is now explicitly stated in the final rule under § 112.8(c)(3). At facilities where an owner or operator maintained the NPDES records in lieu of records maintained specifically for purposes of the SPCC rule, therefore, the information collection burden would be attributable to the NPDES program, and not to part 112.

EPA has issued general permits for stormwater discharges covered by the NPDES stormwater program in 1992 (baseline general permit) and in 1995 (multisector general permit), see 57 FR 44446 (September 25, 1992) and 60 FR 51215 (September 29, 1995). The Agency

estimated that about 100,000 facilities nationwide discharge stormwater associated with industrial activity, not including oil and gas exploration and production operations, and many of these facilities are in industrial categories (such as mining, manufacturing, and transportation) that include SPCC-regulated facilities. U.S. Census data indicate that there are slightly more than 500,000 facilities in these industrial categories, so this analysis assumes that about 20 percent of industrial facilities are subject to the NPDES stormwater permits.

There are approximately 58,000 SPCC-regulated facilities in the industrial categories that are also regulated under the NPDES program, so about 12,000 of these facilities (about 20 percent) are assumed to be subject to the permits. For purposes of the burden reduction analysis, these 12,000 facilities are assumed to be medium and large oil storage facilities and represent approximately 17 percent of the baseline estimate of medium and large oil storage facilities.¹⁵ Although EPA has not estimated the number of oil production facilities subject to NPDES, this analysis assumes that 17 percent of the medium and large production facilities are also subject to the permits and would similarly have a reduced recordkeeping burden. EPA estimates that each facility subject to the NPDES regulations would experience approximately one hour of technical recordkeeping reduction as a result of complying with the NPDES standards. However, because not all SPCC-regulated facilities experience this reduced recordkeeping burden, the estimate must be weighted to reflect the decrease that would occur, on average, at all facilities. The corresponding weighted decrease in unit burden for both an average medium facility and an average large facility is therefore estimated to be about 0.2 technical hours. Exhibit 3-6 shows the estimated burden reduction associated with this proposed change for an average small, medium, and large facility, respectively.

EXHIBIT 3-6
Estimated Weighted Reduction in Unit
Burden Hours and Unit Costs
NPDES
Average Facility

| Type of Facility | Annual Burden Hours | | | Unit Burden Hours | Unit Cost |
|------------------|---------------------|-----------|----------|-------------------|-----------|
| | Managerial | Technical | Clerical | | |
| Small | 0.0 | 0.0 | 0.0 | 0.0 | \$0 |
| Medium | 0.0 | (0.2) | 0.0 | (0.2) | (\$6) |
| Large | 0.0 | (0.2) | 0.0 | (0.2) | (\$6) |

Another example of usual and customary business records are records of inspections and tests kept by a facility following standard industrial practices, such as the American Petroleum Institute's (API) Standards 653 and 2610. EPA believes that these standards represent usual and customary business practices for certain facilities in the petroleum industry and that the burden associated with developing and maintaining such records should no longer be attributed to the SPCC burden.

Specifically, §112.8(c)(6) requires periodic integrity testing of an aboveground container's shell, tank supports, and foundations taking into account tank design (floating

¹⁵ EPA is assuming, for the purposes of this analysis, that it is unlikely that a significant number of small facilities would also be subject to the NPDES program because of the low number of small industrial facilities and the increased likelihood that these facilities are connected to a municipal wastewater service.

roof, etc.) using a non-destructive shell testing technique combined with a visual inspection. An owner or operator is required to keep comparison records of these events for a period of at least three years.

However, this requirement is similar to the recommended practices suggested in the following two industry standards:

- API 653 -- Tank Inspection, Repair, Alteration and Reconstruction. API 653 is considered the predominant standard for tank inspection and its provisions are based on the tank design principles found in API 620 and 650. API 653 calls for owners or operators of tanks and associated systems to maintain a complete record file consisting of construction, repair/alteration history, and inspection history records. Inspection history includes all measurements taken, the condition of all parts inspected, and a record of all examinations and tests.
- API 2610 -- Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities. API 2610 incorporates the requirements of many different standards for tanks into one document. The standard recommends that periodic inspection and preventive maintenance be conducted on all transfer systems to control leaks and that complete maintenance records should be maintained by the operator for all equipment within a terminal.

To estimate the reduction in SPCC recordkeeping burden as a result of the overlap with these industry standards, EPA assumed that all production facilities and the following types of petroleum-industry storage facilities comply with API standards:

- Bulk stations and terminals;
- Gasoline service stations;
- Fuel oil dealers; and
- Petroleum refiners.

The estimated reduction in recordkeeping burden for such facilities varies according to the size and type of the facility. Exhibit 3-7 presents the reduction in the recordkeeping unit burden estimate by facility type for facilities that follow industry guidelines that are similar to certain SPCC recordkeeping provisions. Only technical recordkeeping time is assumed to be affected by the rule change.

EXHIBIT 3-7
Estimated Reduction in Unit Recordkeeping Burden for API Complying Facilities

| Type of Facility | | Reduction in Technical Burden Hours |
|------------------|--------|--|
| Storage | Small | (1.0) |
| | Medium | (3.0) |

| | | |
|------------|--------|-------|
| | Large | (7.5) |
| Production | Small | (1.5) |
| | Medium | (1.5) |
| | Large | (1.5) |

Again, because not all SPCC-regulated facilities follow the industry standards discussed previously, the burden reduction estimates must be weighted to reflect the decrease that would occur, on average, at all facilities. Approximately 133,700 small facilities (37 percent of all small facilities), 40,800 medium facilities (48 percent of all medium facilities), and 2,800 large facilities (20 percent of all large facilities) are expected to be affected by the rule change.¹⁶ The weighted unit burden reduction is therefore calculated to be approximately 0.0 hours for an average small facility, 1.0 hours for an average medium facility, and 1.4 hours for an average large facility. Exhibit 3-8 presents the estimated weighted burden reduction for an average small, medium, and large storage and production facility, respectively.

EXHIBIT 3-8
Estimated Weighted Reduction in Unit Burden Hours and Unit Costs
API Standards
Average Facility

| Type of Facility | | Annual Burden Hours | | | Unit Burden Hours | Unit Cost |
|------------------|--------|---------------------|-----------|----------|-------------------|-----------|
| | | Managerial | Technical | Clerical | | |
| Storage | Small | 0.0 | 0.0 | 0.0 | 0.0 | \$0 |
| | Medium | 0.0 | (1.0) | 0.0 | (1.0) | (\$28) |
| | Large | 0.0 | (1.4) | 0.0 | (1.4) | (\$40) |
| Production | Small | 0.0 | (1.5) | 0.0 | (1.5) | (\$43) |
| | Medium | 0.0 | (1.5) | 0.0 | (1.5) | (\$43) |
| | Large | 0.0 | (1.5) | 0.0 | (1.5) | (\$43) |

3.3.13 40 CFR 112.7(i)

¹⁶ 1997 Proposed Rule ICR (EPA #0328.06, 10/20/97)

EPA is requiring the owner or operator of a regulated facility to evaluate a field-constructed container's potential for brittle fracture or other catastrophe whenever the facility conducts major repairs or alterations to its tanks or modifies the service of its tanks. Field-constructed storage containers are typically larger than 20,000 gallons, and, therefore, no small facilities are expected to evaluate their containers. Based on the expert judgement of engineers knowledgeable of SPCC-regulated facilities, it is estimated that five percent of all medium and large storage facilities will be required to evaluate their containers each year (2,200 medium and 630 large facilities). It is estimated that medium and large storage facilities that test their containers for brittle fracture will require four and twelve hours, respectively, to document records of tests and inspections. This recordkeeping burden is estimated to require an equal amount of technical and clerical time.

EXHIBIT 3-9
Unit Burden Brittle Fracture Testing Recordkeeping Requirements*

| Type of Facility | | Annual Burden Hours | | | Unit Burden Hours | Unit Cost |
|------------------|--------|---------------------|-----------|----------|-------------------|-----------|
| | | Managerial | Technical | Clerical | | |
| Storage | Small | 0.0 | 0.0 | 0.0 | 0.0 | \$0 |
| | Medium | 0.0 | 0.1 | 0.1 | 0.1 | \$3 |
| | Large | 0.0 | 0.3 | 0.3 | 0.6 | \$15 |
| Production | Small | 0.0 | 0.0 | 0.0 | 0.0 | \$0 |
| | Medium | 0.0 | 0.0 | 0.0 | 0.0 | \$0 |
| | Large | 0.0 | 0.0 | 0.0 | 0.0 | \$0 |

The numbers in this exhibit may not add precisely due to rounding

3.3.14 Reviewing and Understanding the Final Rule

In addition to the burden incurred by a facility related to the above changes in the rule, all SPCC-regulated facilities are expected to incur an additional burden associated with the time required to read and understand the revisions being made to the SPCC rule. Based on a review of other information collection requests for rules of a similar magnitude, EPA estimates that it will require approximately 3.5 hours per facility to review the final rule and to become familiar with the major changes being made in addition to the revised sequence of the rule.

To ease this burden, EPA has published in the preamble to the final rule, a matrix identifying the major changes to the rule. The matrix describes, in plain English, the previous requirements of the rule, what is being revised, and any additional comments clarifying EPA's intentions. This burden is estimated to affect only existing facilities as they will need to be aware of the changes being made. The burden incurred by new facilities to read and understand the rule is already incorporated into the baseline burden associated with preparing a new Plan.

EXHIBIT 3-10

Burden Associated with Reviewing and Understanding the Final Rule

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

| Type of Facility | Annual Burden Hours | | | Unit Burden Hours | Unit Cost |
|------------------|---------------------|-----------|----------|-------------------|-----------|
| | Managerial | Technical | Clerical | | |
| Small | 1.0 | 2.5 | 0.0 | 3.5 | \$119 |
| Medium | 1.0 | 2.5 | 0.0 | 3.5 | \$119 |
| Large | 1.0 | 2.5 | 0.0 | 3.5 | \$119 |

3.4 ESTIMATED NUMBER OF REGULATED FACILITIES

This section describes the universe of facilities subject to the SPCC regulation. To determine the scope of production facilities and storage facilities in most industrial categories, the baseline number of facilities was determined in the 1995 SPCC Survey. As described in the analysis titled "Analysis of the Number of Facilities Regulated by EPA's SPCC Program," however, a few industry categories were not sampled or had a response rate too low to allow for extrapolation.¹⁷ For those industry categories, estimates of the number of facilities from the 1991 SPCC Facilities Study were used to supplement the Survey totals.

For a few other industry categories, the Survey analysis was thought to underestimate the national number of SPCC facilities, while the Facilities Study was thought to overestimate these facilities. In these cases, the midpoint of Survey and Facilities Study estimates for these industry categories was selected for use in calculating an adjusted national estimate. Adjustments to the estimate were also made to reflect the fact that the survey design limited sampling to the 48 contiguous States. Following this adjustment and validation process, EPA arrived at an adjusted national estimate of the number of facilities subject to the SPCC regulation for each industry category. An estimated 437,700 facilities in total were regulated by the SPCC Program in 1995.¹⁸ This estimate was inflated by a one percent annual growth rate to yield an estimated 464,627 facilities subject to the SPCC regulation prior to these revisions.

This estimate is composed of a total of 460,027 existing facilities for the first year following the regulation's implementation. The breakdown by facility size was estimated to be 364,950 small facilities, 85,771 medium facilities, and 13,906 large facilities. The

¹⁷ U.S. Environmental Protection Agency, *Analysis of the Number of Facilities Regulated by EPA's SPCC Program*, 1996.

¹⁸ Use of this estimate may lead to a slight overestimate in the number of facilities subject to paperwork requirements under the Paperwork Reduction Act because it includes a small number of Federal facilities, which are not defined as "persons" under OMB's final rule on reporting and recordkeeping requirements (60 FR 44978).

one percent annual growth rate is assumed to continue for the duration of the rule's existence.

To develop the one percent annual growth rate figure, U.S. Census data on the number of manufacturing establishments were reviewed.¹⁹ These data indicate that the number of manufacturing establishments in the U.S. increased by an average of 1.4 percent annually over the 10-year period from 1976-1986. This number pertains to the net annual increase in the number of establishments (new establishments less establishments closed). However, an estimate of the annual number of new establishments (without closings subtracted out) is needed. Therefore, the 1.4-percent figure was adjusted upward to two percent to better reflect the addition of new facilities (and the resumption of operations at facilities that had been closed). This growth trend, however, is offset to some extent by recent declines in the number of farms and production facilities, which represent a large percentage of all SPCC-regulated facilities.²⁰ Therefore, overall growth in the number of SPCC regulated facilities was adjusted downward to one percent.

EXHIBIT 3-11
Baseline Number of Existing and New Facilities
(First Year)

| | | Small | Medium | Large | Total |
|----------|------------|---------|--------|--------|---------|
| Existing | Storage | 236,057 | 58,857 | 13,453 | 308,366 |
| | Production | 125,280 | 26,065 | 315 | 151,661 |
| | Total | 361,337 | 84,922 | 13,768 | 460,027 |
| New | Storage | 2,361 | 589 | 135 | 3,084 |
| | Production | 1,253 | 261 | 3 | 1,517 |
| | Total | 3,613 | 849 | 138 | 4,600 |

¹⁹ U.S. Department of Commerce, *County Business Patterns* (annual editions for years 1976-1986), 1978-1988.

²⁰ Facilities ceasing operations were primarily small facilities from the farming and oil production sectors of the SPCC-regulated universe. For farms, the average annual decrease in the number of farms from 1983 to 1992 was approximately 1.4 percent of the total number of farms (Statistical Abstract of the United States, 1993). For production facilities, the number of stripper wells decreased by 2.1 percent from 1992 to 1993 (1994 API Oil Data Book). This analysis assumes that these overall rates of decrease apply proportionately to those facilities within these sectors that are SPCC-regulated. Because small farms and production facilities represent approximately 60 percent of all SPCC-regulated facilities, EPA anticipates that these losses partially offset the overall projected growth in the SPCC universe.

^{*} The numbers in this exhibit may not add precisely due to rounding.

3.4.1 Adjusting Universe Estimates

Several of the revisions being made to the SPCC program will affect the number of facilities currently regulated under the program. For the purposes of this EA, EPA has quantified the effects of the three major revisions that will affect the number of SPCC-regulated facilities. These revisions are:

- Final 40 CFR 112.1(d)(2)(i) and 112.1(d)(4). EPA is no longer regulating under the SPCC program a completely buried tank that is subject to all of the technical requirements of 40 CFR part 280 or of a State program approved under 40 CFR part 281.
- Final 40 CFR 112.1(d)(2)(ii). EPA is no longer regulating a facility having a single container with a storage capacity greater than 660 gallons, but aggregate aboveground storage capacity of 1,320 gallons or less of oil.
- Final 40 CFR 112.1(f). EPA is granting its Regional Administrators the authority to require any facility subject to the jurisdiction of EPA under section 311(j) of the CWA, but otherwise exempt from the requirement to prepare an SPCC Plan under part 112, to prepare and implement a total or partial SPCC Plan where necessary to carry out the purposes of the CWA.

The effects that the above changes will have on the number of SPCC-regulated entities is discussed in greater detail below. To develop a national estimate of SPCC-regulated facilities that would be affected by these final revisions to the rule, EPA extrapolated the results of the SPCC Survey to the national level. The SPCC Survey was administered in 1995 to a national sample of facilities likely to be regulated under the program.

Final 40 CFR 112.1(d)(2)(i) and 112.1(d)(4)

To estimate the burden reduction associated with eliminating completely buried tanks subject to all of the technical requirements of 40 CFR part 280 or of a State program approved under 40 CFR part 281, from the SPCC program, EPA conducted the analysis in two separate steps. First, EPA determined the total number of facilities in the Survey that were regulated solely because of their completely buried tanks and extrapolated this number to the universe of regulated facilities to determine the national estimate of facilities that would drop out of the program due to a completely buried tank exemption. Second, EPA estimated the number of facilities that would experience a significant decrease in burden because they would no longer have to include their

completely buried tanks in their SPCC Plan. To estimate this number, EPA relied on a model facility approach.

The model facility approach characterizes the universe in terms of small, medium, and large facilities, which is dependent on a facility's number of tanks and estimated storage capacity. Some facilities, as a result of a completely buried tank exemption, would have their facility classification change from a medium to a small facility due to a change in their regulated storage capacity. EPA estimated the number of facilities that would change classification by screening Survey data and extrapolating the findings to derive a national estimate. While these facilities would still be regulated under the SPCC program, their annual paperwork burden would be significantly reduced to warrant a re-classification because of a change in their regulated storage capacity. In reality, all facilities with regulated completely buried tanks would experience a decrease in burden and capital costs so it is likely that EPA's estimate understates the true effect.

Based on an analysis of Survey results, EPA estimates that about 30,400 facilities will be affected by this revision.²¹ Out of this total, about 13,000 facilities – the majority of which are likely to be gasoline service stations – will no longer be regulated under part 112. The other facilities will likely experience a reduction in burden, even though they will remain regulated, as their SPCC Plans will no longer need to discuss a completely buried tank regulated under 40 CFR part 280. This revision will decrease aggregate capital-costs for regulated facilities because of the reduced number of such facilities. The effects are discussed in greater detail in section 3.5.1 of this analysis.

Final 40 CFR 112.1(d)(2)(ii)

EPA is revising the rule to no longer regulate a facility having a single container with a storage capacity greater than 660 gallons, but aggregate aboveground storage capacity of 1,320 gallons or less of oil. To estimate the number of facilities that would benefit from this regulatory threshold change, EPA analyzed Survey results for the number of facilities with a total aboveground oil storage capacity between 660 and 1,320 gallons in a single tank.²²

Analysis of the Survey data showed that about 10.5 percent of small facilities would no longer be regulated if this option was enacted. As a result, EPA expects that about 38,496 small facilities will no longer be regulated (38,115 existing facilities and 381

²¹ EPA conducted this analysis using a 1,320 gallon or less aboveground storage capacity threshold to avoid a possible double counting of the number of facilities that may be affected under both revisions.

²² Some facilities could have aboveground storage capacity between these thresholds but still be regulated under this rule if the facility had greater than 42,00 gallons of completely buried storage capacity. To estimate the burden reduction effects of this option, EPA did not include facilities with greater than 42,000 gallons completely buried storage capacity in their burden reduction estimate.

new facilities). Of this total, approximately 70 percent, or about 28,800 facilities are small farms. Other industries that are likely to experience a significant decrease in the number of regulated facilities include primary and secondary schools and colleges as well as gasoline service stations. The remaining number of facilities are evenly distributed among the manufacturing and transportation sectors of the economy. This revision will decrease aggregate capital-costs for regulated facilities because of the reduced number of such facilities. The effects are discussed in greater detail in section 3.5.1 of this analysis.

Final 40 CFR 112.1(f)

EPA is granting its Regional Administrators the authority, on a case-by-case basis, to require any facility subject to CWA section 311(j) to prepare and implement a total or partial SPCC Plan where necessary to carry out the purposes of the CWA. This provision will apply to any facility that would otherwise be exempted from compliance with the regulation (such as a facility with a completely buried tank subject to all of the technical requirements of 40 CFR part 280 or a State program approved under 40 CFR part 281 that will be exempted under 40 CFR 112.1(d)(4)).

An otherwise exempted facility that is required to prepare a total or partial Plan will incur costs to prepare that Plan and fulfill all other SPCC requirements, including all rule revisions. The main compliance activities are:

- Prepare the SPCC Plan (40 CFR 112.7);
- Submit information in the event of certain discharges of oil (40 CFR 112.4);
- Revise the SPCC Plan following modification of the facility (40 CFR 112.5(a)); and
- Maintain the SPCC Plan and keep records (40 CFR 112.3 and 112.7).

The RAs are expected to exercise their authority only in unusual circumstances on a facility-by-facility basis. The number of affected facilities has been estimated by Regional personnel at 10 facilities or fewer per Region. This estimate is used for purposes of this analysis. The average calculated cost per affected facility to comply with all the SPCC paperwork-related requirements is the same as the average unit cost for a new facility. EPA assumes that out of the approximately 100 facilities each year that will be affected by this provision, 60 percent will be small facilities, 30 percent will be medium facilities, and 10 percent will be large facilities.²³ This revision will increase aggregate capital-costs for regulated facilities because of the increased number of such facilities. The effects are discussed in greater detail in section 3.5.1 of this analysis.

Exhibit 3-12 summarizes the effects that the above three revisions will have on the number of SPCC regulated facilities. The exhibit shows that over 51,500 facilities, representing over ten percent of the entire SPCC-regulated universe, will no longer be subject to the requirements of the SPCC rule. Of this total, nearly 30,000 are small facilities. The facilities most likely to be affected by these changes are small farms due to the change in the minimum aboveground storage capacity threshold and gasoline service stations due to the exemptions of completely buried tanks that are subject to all of the technical requirements of EPA's UST program.

²³ 1993 Notice of Proposed Rulemaking Economic Impact Analysis of the Proposed Revisions to the Oil Pollution Prevention Regulation.

EXHIBIT 3-12
Adjusted Number of Existing and New Facilities
(First Year)

| | | Small | Medium | Large | Total |
|----------|------------|---------|--------|--------|---------|
| Existing | Storage | 216,827 | 44,467 | 12,544 | 274,094 |
| | Production | 115,075 | 19,692 | 294 | 134,805 |
| | Total | 331,902 | 64,159 | 12,838 | 408,899 |
| New | Storage | 2,207 | 465 | 135 | 2,808 |
| | Production | 1,172 | 206 | 3 | 1,381 |
| | Total | 3,379 | 672 | 138 | 4,189 |

3.5 TOTAL COSTS

This section presents the estimated total costs to small, medium, and large facilities of complying with the revisions to the Oil Pollution Prevention regulation. The revisions to the final rule will affect both the capital costs to facilities and their paperwork burden. Both effects are detailed below.

3.5.1 CAPITAL COSTS

Three of the revisions to the final rule are expected to result in decreased aggregate capital costs to facilities. Specifically, provisions 112.1(d)(2)(i), 112.1(d)(2)(ii), and 112.1(f) will alter the universe of regulated facilities, thereby changing the total capital costs to regulated facilities. Two of the provisions — 112.1(d)(2)(i) and 112.1(d)(2)(ii) — will decrease the number of regulated facilities, and thus reduce the aggregate capital costs posed to the regulated community. Only provision 112.1(f) will act to increase aggregate capital costs. Exhibit 3-13 shows the estimated unit capital costs to both existing and new storage and production facilities in each size category.²⁴ The three provisions' cumulative effects on the universe of facilities following the first year after the final rule revisions is presented in Exhibit 3-14.

EXHIBIT 3-13
Estimated Capital-Related Annual Compliance Cost per Model Facility

| Type of Facility | | Small | Medium | Large |
|------------------|------------|-------|--------|---------|
| Existing | Storage | \$177 | \$570 | \$1,614 |
| | Production | \$177 | \$514 | \$1,393 |
| | | | | |

²⁴ From the 1997 Screening Analysis of the Spill Prevention, Control, and Countermeasure Program Impacts on Small Entities.

| | | | | |
|-----|------------|---------|----------|-----------|
| New | Storage | \$2,903 | \$37,206 | \$153,179 |
| | Production | \$2,903 | \$34,424 | \$142,054 |

EXHIBIT 3-14*
Change in the Size of the Regulated Community Due to Final Rule Revisions
 (First year)

| Type of Facility | | Small | Medium | Large |
|------------------|------------|----------|----------|-------|
| Existing | Storage | (19,230) | (14,390) | (909) |
| | Production | (10,206) | (6,373) | (21) |
| New | Storage | (153) | (123) | 1 |
| | Production | (81) | (55) | 0 |

*The numbers in this exhibit are approximations due to rounding.

To determine the total change in capital costs, the change in the regulated community was multiplied by the estimated capital-related compliance costs. The results are presented in Exhibit 3-15. In total, the final rule revisions are expected to provide the regulated community with a first-year capital-cost savings of approximately \$25.22 million.

EXHIBIT 3-15*
Change in Aggregate Capital Costs Due to Final Rule Revisions
 (Million \$)

| Type of Facility | | Small | Medium | Large | Total |
|-----------------------------------|------------|-----------------|------------------|-----------------|------------------|
| Existing | Storage | (\$3.40) | (\$8.20) | (\$1.47) | (\$13.07) |
| | Production | (\$1.81) | (\$3.28) | (\$0.03) | (\$5.11) |
| New | Storage | (\$0.44) | (\$4.58) | \$0.10 | (\$4.92) |
| | Production | (\$0.24) | (\$1.88) | \$0.00 | (\$2.11) |
| Total Capital Costs Change | | (\$5.89) | (\$17.93) | (\$1.39) | (\$25.22) |

*The numbers in this exhibit may not add precisely due to rounding.

3.5.2 PAPERWORK BURDEN

The revisions to the final rule are expected to reduce the total paperwork cost burden posed to facilities in each size category. These reductions are presented in Exhibit 3-16. Total costs increase by about \$15 million for existing facilities during the first year following the regulation's implementation, but decreases by approximately \$53 million in the second year and \$39 million per year in

subsequent years. For new facilities, total costs decrease by over \$2.20 million during the first year, \$2.23 million in the second year, and over \$2.25 million per year in subsequent years.

Regulated facilities will experience an increase in total **paperwork** costs in the first year of the regulation's implementation of about \$13 million. This increase is primarily associated with the one-time burden to read and understand the revisions being made to the SPCC rule, along with a slight increase in burden associated with two other one-time activities: 1) supplementing existing SPCC Plans with a cross-reference matrix, and 2) adding a facility diagram to the Plan. **Starting in the third year following the rulemaking**, the burden to regulated facilities substantially drops by over \$41 million, as a result of the many burden reducing provisions to the rule.

EXHIBIT 3-16^{*}
ESTIMATED TOTAL FIRST-YEAR AND SUBSEQUENT-YEAR COSTS OF
THE FINAL REVISIONS
(Million \$)

| Provision or Activity | First Year | Second Year | Each Subsequent Year ^{**} |
|--------------------------------------|------------------|------------------|------------------------------------|
| <u>Existing Facilities</u> | | | |
| Five-Year Review - §112.5(b) | | | |
| Small Facilities | (\$19.22) | (\$19.22) | (\$8.63) |
| Medium Facilities | (\$6.24) | (\$6.24) | (\$3.41) |
| Large Facilities | (\$1.45) | (\$1.45) | (\$0.64) |
| Total | (\$26.91) | (\$26.91) | (\$12.68) |
| Oil Discharge - §112.4(c) | | | |
| Small Facilities | - | - | - |
| Medium Facilities | - | - | - |
| Large Facilities | - | - | - |
| Total | (\$0.01) | (\$0.01) | (\$0.01) |
| Plan Modification - §112.5(a) | | | |
| Small Facilities | (\$4.02) | (\$4.06) | (\$4.10) |
| Medium Facilities | (\$1.93) | (\$1.95) | (\$1.97) |
| Large Facilities | (\$0.20) | (\$0.21) | (\$0.21) |
| Total | (\$6.16) | (\$6.21) | (\$6.27) |
| Recordkeeping | | | |
| Small Facilities | (\$10.38) | (\$10.48) | (\$10.58) |
| Medium Facilities | (\$7.28) | (\$7.35) | (\$7.42) |
| Large Facilities | (\$2.20) | (\$2.22) | (\$2.24) |
| Total | (\$19.86) | (\$20.05) | (\$20.24) |
| Cross-Reference - §112.3(a) | | | |
| Small Facilities | \$5.14 | - | - |
| Medium Facilities | \$0.99 | - | - |
| Large Facilities | \$0.20 | - | - |
| Total | \$6.33 | - | - |
| Facility Diagram - §112.7(a)(3) | | | |
| Small Facilities | \$10.36 | - | - |
| Medium Facilities | \$2.39 | - | - |
| Large Facilities | \$0.06 | - | - |
| Total | \$12.82 | - | - |
| Brittle Fracture Records - §112.7(i) | | | |
| Small Facilities | - | - | - |
| Medium Facilities | \$0.22 | \$0.23 | \$0.23 |
| Large Facilities | \$0.19 | \$0.19 | \$0.19 |
| Total | \$0.41 | \$0.42 | \$0.42 |
| | | | |

| Provision or Activity | First Year | Second Year | Each Subsequent Year ^{''} |
|---|-----------------|------------------|------------------------------------|
| Read and Understand Rule | | | |
| Small Facilities | \$39.52 | - | - |
| Medium Facilities | \$7.64 | - | - |
| Large Facilities | \$1.53 | - | - |
| Total | \$48.69 | - | - |
| Total Costs To Existing Facilities | \$15.32 | (\$52.76) | (\$38.78) |
| <u>New Facilities</u> | | | |
| New Plan - §112.3(a) | | | |
| Small Facilities | (\$1.06) | (\$1.07) | (\$1.09) |
| Medium Facilities | (\$0.78) | (\$0.78) | (\$0.79) |
| Large Facilities | (\$0.12) | (\$0.12) | (\$0.12) |
| Total | (\$1.95) | (\$1.97) | (\$2.00) |
| Oil Discharge - §112.4(c) | | | |
| Small Facilities | - | - | - |
| Medium Facilities | - | - | - |
| Large Facilities | - | - | - |
| Total | - | - | - |
| Plan Modification - §112.5(a) | | | |
| Small Facilities | (\$0.03) | (\$0.03) | (\$0.03) |
| Medium Facilities | (\$0.02) | (\$0.02) | (\$0.02) |
| Large Facilities | - | - | - |
| Total | (\$0.05) | (\$0.05) | (\$0.05) |
| Recordkeeping | | | |
| Small Facilities | (\$0.11) | (\$0.11) | (\$0.11) |
| Medium Facilities | (\$0.08) | (\$0.08) | (\$0.08) |
| Large Facilities | (\$0.02) | (\$0.02) | (\$0.02) |
| Total | (\$0.20) | (\$0.21) | (\$0.20) |
| Total Costs To New Facilities | (\$2.20) | (\$2.23) | (\$2.25) |
| <u>All Facilities</u> | | | |
| Total Costs To All Facilities | \$13.39 | (\$54.99) | (\$41.03) |

^{*} The numbers in this exhibit may not add precisely due to rounding.

^{''} The figures presented here are minimum estimates. Costs and cost savings are expected to grow over time as the number of regulated facilities grows.

Note: Facility size categories are defined as follows: a small facility is assumed to have aboveground storage capacity greater than 1,320 gallons total but less than or equal to 42,000 gallons; a medium facility is assumed to have total storage capacity greater than 42,000 gallons but less than or equal to one million gallons; a large facility is assumed to have total storage capacity greater than one million gallons.

CHAPTER 4

PUBLIC HEALTH AND WELFARE, AND ENVIRONMENTAL EFFECTS

4.1 INTRODUCTION

Discharges of both petroleum and non-petroleum oils into the nation's marine and freshwater environments have the potential to cause damages to public health and welfare, and to the environment. Discharges from SPCC facilities can occur whenever oil is handled or stored during production, transfer, use, or disposal. Causes of discharges include human error (e.g., improper reaction conditions and overfilling tanks during transfer operations), equipment failure (e.g., deteriorated seals and ruptured pipes or tanks), and improper storage or abandonment.

4.2 EFFECTS OF OIL DISCHARGES INTO MARINE OR FRESHWATER ENVIRONMENTS

Studies have documented nature's ability to recover over time from the damage caused by a large oil discharge. Nevertheless, the impact of such large discharges into either the marine or freshwater environment can be devastating in the short-term, and some of the effects may last for years or even decades. Both the extent of biological damage caused by a discharge and the speed of recovery depend on many factors, including the following: geographic location, quantity of oil spilled, characteristics of the area affected, oceanographic conditions, weather conditions, the season, the type of oil, and the nature of the response.

Physical, chemical, and biological transformations of discharged oil begin immediately upon introduction to marine or freshwater environments. The rate and degree of transformation depend on several factors related to advective and spreading processes. Advection is caused by the influence of overlying winds and underlying currents on the oil, while spreading results from the interplay among the forces of gravity, inertia, friction, viscosity, and surface tension. These two processes cause a rapid increase in the exposure area of the oil to subsequent "weathering." Oil spreads on the surface of water, forming a "slick" that tends to move or drift with waves, currents, and wind. The rate of spreading depends on the type of oil, its volume, wind and sea conditions, and the amount of weathering that occurs. A thicker region of an oil slick will drift more rapidly than a thinner one, so that thicker regions tend to accumulate at the leading edge of a drifting slick.

The toxicity of the discharge depends on oil type. Freshly discharged crude is more acutely toxic than weathered oil because of the presence of the more toxic volatile constituents, which quickly evaporate or dissolve. Similarly, lighter refined products

(e.g., diesel fuel and gasoline) are more acutely toxic than crude but dissipate more rapidly.

The specific properties of the discharged oil (e.g., density and viscosity) determine the susceptibility of a spill to weathering. Weathering processes include evaporation, dissolution, vertical dispersion, emulsification, and sedimentation. Emulsification in particular can expand the initial discharge volume considerably as oil and water mix to form a mousse. For persistent oils, emulsification can increase initial spill volume by a factor of 2 to 3, depending on the type of oil. The longer the discharged oil remains in rough seas, the greater the likelihood of a mousse occurring. A mousse may also occur in quiescent waters.

The viscosity of oil also changes as the oil is exposed to these weathering processes. High viscosity oils are more difficult to recover mechanically (e.g., pump) and disperse than low viscosity oils. Weathering processes tend to increase the viscosity and may make mechanical recovery and removal of spilled oil from water more difficult. Over time, the discharge spreads into a thin layer and continues to break down, fragmenting into smaller patches. These patches may cover even larger surface areas than the initial discharge due to drifting.

Depending on the location of the discharge, as well as weather and oceanographic conditions, some of the oil may affect shoreline areas. Unlike ocean spills that are dispersed by wind and wave action, oil discharged near the shoreline typically concentrates and mixes with near-shore waters or collects along shorelines. As a result, wetlands, seagrass beds, beaches, rocky habitats, coral reefs, intertidal areas, and terrestrial ecosystems may be damaged.

Oil deposited in near-shore sediments persists longer than in ocean sediments. Oil is particularly persistent in low-energy, wetland habitats.²⁵ High-energy, rocky shores tend to self-clean within a matter of months, whereas soft-sediment lagoons, marshes, and mangrove swamps act as long-term petroleum sinks. Pools of oil may collect between rocks and remain essentially unchanged for a long time.

On cobble and sandy beaches, oil can sink deeply into the sediments and remain longer than on bare rocks. Sediment grain size and compaction determine the rate of penetration. In muddy sediments, only the upper few centimeters are penetrated. However, because little physical weathering occurs in these environments, stranded oil can persist for decades.²⁶

²⁵ U.S. Department of Energy, *Report to Congress on Candidate Sites for Expansion of the Strategic Petroleum Reserve to One Billion Barrels*, Office of Strategic Petroleum Reserve, March 1991, Document Number DOE/FE-0221P.

²⁶ National Research Council, *Oil in the Sea: Inputs, Fates, and Effects*, National Academy Press,

Washington, D.C., 1985.

Heavy oiling of the shore zone causes immediate, widespread death of plants and animals due to smothering and toxic effects. The long-term effects are more variable and subtle, and depend on the type of petroleum discharged, climate, weather, resilience of the affected ecosystem, and numerous other factors.

Attempts to clean beaches of oil may actually cause further ecological damage. The extent of possible additional damage depends on the cleanup technology used (e.g., hot- and cold-water washing, backhoeing and tilling, and manual oil removal). Hot-water washing may destroy any surviving marine organisms in areas where the technique is applied. Additionally, the high pressure used in both hot- and cold-water washing can destabilize gravel and sand beaches. Shifting sediments then suffocate marine organisms that inhabit these areas, impeding recolonization. Furthermore, manual removal may damage some ecosystems more than if natural degradation of the oil were allowed to occur. Excessive removal of oiled sediments can also result in the disturbance of physical and ecological equilibrium.

To varying degrees, coastal marine environments throughout the United States serve as breeding and nursing areas for resident and migratory species of fish and aquatic birds. Fish can be affected through ingestion of oil or oiled prey and uptake of dissolved petroleum compounds through the gills, or by changes in the ecosystem. Damage to fish eggs and larvae also may occur. The sensitivity of fish to oil spills varies by species and age class. In general, fish are very sensitive to short-term acute exposures, but are able to metabolize sub-lethal intakes. Fish in older age classes are able to avoid heavy contamination and have a mucous coating that helps them resist contact with toxic oil constituents. The youngest age classes are most vulnerable to oil spills. Oil may smother eggs, interfere with hatching success, or cause developmental abnormalities.²⁷ Many physiological, histological, and behavioral abnormalities caused by exposure to crude oil have been documented.²⁸

Aquatic birds, especially diving birds, are highly vulnerable to oil spilled in coastal areas. Feathers that are coated with oil become water-logged and lose their insulating properties. As a result, birds may drown or die of hypothermia. Oil also may be ingested by birds as they preen. Birds suffer stress-related effects as they attempt to detoxify the ingested oil.²⁹ Ingested oil can temporarily depress egg laying and reduce

²⁷ U.S. Department of Energy, *Report to Congress on Candidate Sites for Expansion of the Strategic Petroleum Reserve to One Billion Barrels*, Office of Strategic Petroleum Reserve, March 1991, Document Number DOE/FE-0221P.

²⁸ National Research Council, *Oil in the Sea: Inputs, Fates, And Effects*, National Academy Press, Washington, D.C., 1985.

²⁹ U.S. Department of Energy, *Report to Congress on Candidate Sites for Expansion of the Strategic Petroleum Reserve to One Billion Barrels*, Office of Strategic Petroleum Reserve, March 1991, Document

the hatching success of those eggs that are laid.³⁰ Disturbance of valuable habitats or resources also could indirectly affect birds through increased competition. Many waterfowl and shorebirds flock on salt marshes and mud flats (which tend to recover more slowly) and would be vulnerable if their feeding habitats were contaminated by oil spills.

Oil discharges may also disrupt the structure and function of marine ecosystems. Differential rates of mortality resulting from oil spills shift food web relationships. The results for individual organisms are changes in resource availability, competition, and predation. On the population level, species that are dependent on affected prey or habitats will decline while opportunistic species may increase. Rare species, small local populations, or species that are seasonally concentrated in the impacted habitat are the most likely to decline as a result of an oil discharge.

In addition to adverse effects on fish, aquatic birds, and marine ecosystems, human health may be at risk as a consequence of oil pollution of water. The main concern regarding the risk to humans is the known carcinogenicity of several of the oil components and exposure to toxic elements in oil through direct exposure or through oil-tainted food. Human health risks also include hazards encountered by workers during cleanup operations.

4.3 INCREMENTAL EFFECTS OF THE PROPOSED RULEMAKING ON MARINE AND FRESHWATER ENVIRONMENTS

This economic analysis assumes that the revision to the Oil Pollution Prevention regulation will have a minimal effect on the above risks. Rather, the final changes to the rule will lessen the burden to the regulated community while maintaining a commensurate level of protection to human health and the environment. The revisions will affect regulated facilities in two manners. First, several of the final changes will reduce the number of facilities regulated by the SPCC program. The other revisions to the rule are designed to lessen the regulatory burden of paperwork-related activities required of regulated facilities. Each of these effects and how the final changes to the rule would affect human health or welfare or the environment is discussed below.

4.3.1 REDUCING THE NUMBER OF REGULATED FACILITIES

EPA is reducing the number of facilities subject to the SPCC program by altering the criteria for SPCC program applicability and dropping from the program completely

Number DOE/FE-0221P.

³⁰ National Research Council, *Oil in the Sea: Inputs, Fates, And Effects*, National Academy Press, Washington, D.C., 1985.

buried containers currently subject to all of the technical requirements of 40 CFR part 280 or a State program approved under 40 CFR part 281. Under the final rule, any facility having an aboveground storage capacity of 1,320 gallons or less of oil will no longer be regulated, nor will a completely buried container subject to all the technical requirements of 40 CFR part 280 or of a State program approved under part 281. EPA is, however, granting its Regional Administrators the authority to require any facility subject to the jurisdiction of EPA under section 311(j) of the CWA but otherwise exempt from the requirement to prepare a Plan under part 112 to prepare and implement a total or partial SPCC Plan where necessary to carry out the purposes of the CWA. EPA expects this provision to slightly increase the number of regulated facilities. In aggregate, however, the size of the regulated community will be reduced, with those facilities posing the least amount of environmental risk – the smallest facilities and facilities currently regulated under other programs – being excluded from the SPCC program.

4.3.2 REDUCING PAPERWORK-RELATED REQUIREMENTS FOR REGULATED FACILITIES

In addition to the Agency's revisions to reduce the number of facilities subject to the program, the Agency has also changed the existing rule language in several areas with the primary goal of reducing the paperwork burden to facilities that still must comply with the SPCC regulation. The Agency believes that the effect of these changes, in terms of increasing discharge risk, is negligible because prevention planning and recordkeeping activities would still be conducted in full in accordance with other standards (i.e., industry, State, or other Federal standards) or because the changes do not alter the basic objectives or intent of the regulation but only affect minor recordkeeping provisions.

Three of the proposed rule changes are designed to increase the level of flexibility in formatting plans and in the manner in which records are created and maintained without compromising protection to public health or welfare, or the environment. First, by allowing facilities to deviate from the Plan format specified in the rule – as long as an equivalent plan is prepared, meets all the applicable requirements listed in the rule, is appropriately cross-referenced, and is acceptable to the Regional Administrator – the Agency is giving facility owners or operators flexibility to use alternate formats. Similarly, EPA is allowing a facility owner or operator to deviate from most of the rules' substantive requirements if he explains his reasons for nonconformance and provides equivalent environmental protection. An owner or operator may deviate from the requirement to install secondary containment structures or equipment if not practicable, provides a contingency plan following 40 CFR part 109, conducts periodic integrity testing of containers, and periodic integrity and leak testing of valves and piping. Again, the Agency is allowing flexibility in conforming with the rule's requirements while ensuring that equivalent environmental protection is maintained. Finally, records of inspections and tests maintained in accordance with usual and customary business

practices, such as API 653 and 2610, will no longer have to be replicated for purposes of the SPCC Plan.

The Agency is also allowing a facility owner or operator to submit less information in the event of a reportable discharge under §112.4(a). In these rare instances, the discharge would already have occurred and the effect of the Agency's rule change would simply alter the amount of information that a facility owner or operator is compelled to submit. The Agency, however, would still reserve the right to request additional information from the owner or operator if the Regional Administrator deems it necessary. Additionally, EPA is extending the period of time that a facility has to conduct a self review and evaluation of its Plan from three to five years. The Agency does not believe that this rule change would significantly increase the risk of discharges as a facility would still be required to amend its SPCC Plan under §112.5(a) whenever there is a change in facility design, construction, operation, or maintenance that materially affects the facility's potential for the discharge of oil as described in §112.1(b).

Two revisions to the SPCC rule will decrease both the number of regulated facilities as well as the overall burden for other facilities that will continue to be regulated under the SPCC program. EPA is no longer regulating under the SPCC program a completely buried container that is subject to all of the technical requirements of 40 CFR part 280 or of a State program approved under 40 CFR part 281. The Agency is also no longer regulating any bulk storage container with a storage capacity of less than 55 gallons of oil. Facilities are expected to benefit from these revisions because facility owners or operators will no longer have to include a discussion of the aforementioned containers in their SPCC Plans. These revisions may also enable some facilities to no longer be regulated under the SPCC program; however, EPA notes that these facilities will either be regulated under other Agency programs or do not pose significant threat to the environment due to the nature of the facility.

The Agency has also finalized a few revisions that may increase the burden to a regulated facility, but will likely decrease the risk that regulated facilities pose to the environment. EPA is requiring a facility owner or operator to include with his Plan a facility diagram, which must mark the location and contents of each container. This change will assist response personnel in to plan for emergencies. Additionally, field-constructed aboveground containers must be evaluated for risk of discharge or failure due to brittle fracture or other catastrophe when such a container undergoes a repair, alteration, or a change in service that might affect the risk of a brittle fracture or other catastrophe. This change will reduce the risk of container failure from brittle fracture and other catastrophes. The increased level of burden posed by these revisions is expected to be minor in comparison to the burden savings offered by other finalized revisions. The revision that changes from eight to four the minimum hours that a facility must be attended to be required to maintain a complete copy of an SPCC Plan on the premises is expected to result in a negligible burden

increase because the Plan previously must have been kept and maintained at the nearest field office if not at the facility.

Finally, EPA is requiring all SPCC-regulated facilities to amend their SPCC Plans to conform with the new sequence and requirements of the final rule, if necessary, within six months of the effective date of the final rule and implement the Plan within 12 months. Because the format and sequence of the rule has changed substantially and because many facilities will find that their existing SPCC Plan no longer follows the new sequence of the rule, the Agency has provided a cross-reference template for facilities. The template is intended to make it easier for facilities to fulfill the requirements of 40 CFR 112.3(a), which will in turn pose a minor burden increase to regulated facilities but will not compromise protection to public health or welfare, or the environment.

CHAPTER 5

SMALL BUSINESS ANALYSIS

The purpose of this chapter is to determine whether the changes being made to the U.S. Environmental Protection Agency's (EPA) Spill Prevention, Control, and Countermeasure (SPCC) requirements will likely have a significant economic impact on a substantial number of small entities. EPA is finalizing many of the changes proposed in 1991, 1993, and 1997. The proposals and the changes being finalized that affect small entities regulated by the rule are summarized below, along with the effect these changes are expected to have on small entities.

5.1 REQUIREMENTS OF THE REGULATORY FLEXIBILITY ACT

The Regulatory Flexibility Act (RFA) requires federal agencies to determine whether their regulatory actions will have a significant economic impact on a substantial number of small entities. If an agency does not or cannot certify that a proposed regulation will not have a significant economic impact on a substantial number of small entities, it must prepare a regulatory flexibility analysis and examine alternatives to the proposed regulation that may reduce adverse economic effects on significantly impacted small entities.

In 1996, Congress enacted the Small Business Regulatory Enforcement Fairness Act (SBREFA), which amended the RFA to strengthen its analytical and procedural requirements and to expedite Congressional review of rules. SBREFA amended the RFA to reference the definition of a "small entity" found in the Small Business Act, which itself authorizes the Small Business Administration (SBA) to further define "small business" by regulation. The SBA's small business definitions are codified at 13 CFR 121.601 and the SBA reviews and reissues these definitions every year.

5.2 CHARACTERIZING ENTITIES REGULATED UNDER THE SPCC PROGRAM

EPA initially conducted a screening analysis of the effects of the existing SPCC rule on small businesses in 1997.³¹ Based on the results of that analysis, EPA determined that the SPCC rule did not have significant adverse impacts on small businesses because many small businesses had a total oil storage capacity that was less than the minimum threshold requirements to be regulated by the rule and because the estimated cost of compliance for the remaining facilities did not constitute a significant percentage of a firm's total revenues.

The 1997 screening analysis relied on the results of several previous studies and analyses to characterize the entities regulated under the SPCC program. These studies include the American Petroleum Institute's 1989 survey of facilities with aboveground storage tanks, EPA's 1991 Facilities Study, and EPA's 1995 Survey.³² The 1995 national survey of oil storage and production facilities was used by EPA in part to estimate the number of these facilities subject to EPA's SPCC program. EPA compared the results of the SPCC Survey to previous government and industry studies and calculated a 1996 adjusted national estimate, which represented EPA's best approximation of the number of facilities regulated by the SPCC program. EPA's analysis indicated that approximately 438,000 facilities have oil storage capacity great enough to be regulated under the SPCC program.³³ EPA estimates the number of regulated facilities to have grown by about 22,000, which translates to a current total estimate of 460,000 facilities.

These facilities are predominantly found in seventeen industry sectors. Exhibit 5-1 presents a breakdown by SIC code of the different industry sectors that contain the majority of SPCC facilities, as well as the distribution of facilities by industry sector. The exhibit shows that most SPCC facilities are located in either the agricultural sector of the economy (171,525 facilities) or the oil production sector of the economy (151,661

³¹ *Screening Analysis of the Spill Prevention, Control, and Countermeasures Program Impacts on Small Entities*, Oil Spill Program Center, U.S. EPA, 1997.

³² American Petroleum Institute. *1989 Aboveground Storage Tank Survey*, April 1989; U.S. Environmental Protection Agency. *Spill Prevention, Control, and Countermeasure Facilities Study*, January 1991; Weiner, J.L. *Nutshell Summary of EPA's National Survey of Oil Storage Facilities*, 1997 International Oil Spill Conference.

³³ This estimate includes 1,000 military installations and 2,300 facilities in Alaska and Hawaii. Military installations are federal facilities and therefore not covered as "persons" by the RFA. Also, the 1995 Survey did not extend to facilities in Alaska or Hawaii. The estimates given in the adjusted national estimate were derived from other sources and are not included in this analysis. However, impacts on facilities in these states are expected to be similar to those on facilities in other states.

facilities). Together these sectors account for about 70 percent of the total number of SPCC facilities.

EXHIBIT 5-1

PRIMARY INDUSTRY SECTORS, SIC CODES, AND ESTIMATED NUMBER OF SPCC FACILITIES

| Industry | Standard Industrial Classification Code | Estimated Number of Regulated SPCC Facilities (CY 2000) |
|---|---|---|
| Farms | 01 | 171,525 |
| Coal Mining/Nonmetallic Mining | 12/14 | 1,892 |
| Oil Production | 131 | 151,661 |
| Contract Construction | 16 | 7,567 |
| Food and Kindred Products | 20 | 4,519 |
| Chemicals and Allied Products | 28 | 3,468 |
| Petroleum Refining and Related Industries | 29 | 1,682 |
| Primary Metals | 33 | 736 |
| Other Manufacturing | 20-39 | 16,291 |
| Transportation | 401/411/413/414/417/ 42/449/458 | 17,342 |
| Pipelines | 46 | 631 |
| Electric Utility Plants | 491 | 3,889 |
| Petroleum Bulk Stations and Terminals | 5171 | 10,090 |
| Gasoline Service Stations/Vehicle Rental | 554/751 | 13,663 |
| Fuel Oil Dealers | 5983 | 4,099 |
| Health Care/Education | 801/802/803/804/805/806/807/821/822 | 5,465 |
| Other Commercial Facilities | NA | 42,040 |

| | | |
|----------------|----|---------|
| Military/AK/HI | NA | 3,468 |
| Total | NA | 460,027 |

The industry sectors identified in the 1996 adjusted national estimate and listed above were developed based on EPA's 1991 Facilities Study and the 1995 SPCC Survey. To determine the industry sectors containing potentially regulated facilities, EPA's 1991 Facilities Study examined several state databases of facilities that store oil. All of the databases included the facility name and storage capacity, and some databases also had the SIC Code or other industrial classification for the facility. Using this information, EPA identified the industry sectors containing facilities that met the SPCC storage capacity thresholds. For each industry sector in each of the states examined, EPA divided the number of potentially regulated facilities by the total number of facilities in that industry sector in that state, determined from Census data. These fractions were applied to the national totals from the Census to obtain estimates of the total number of potentially regulated facilities in each industry sector. Similarly, EPA's 1995 SPCC Survey determined the fraction of potentially regulated facilities in each industry sector sampled and extrapolated the results to obtain national estimates.

The total number of entities in each industry sector was generally determined using data from the 1992 U.S. Census at the four-digit SIC-code level. Census data were obtained to some degree for all industry sectors except electric utility plants. This industry is unique in that the SBA defines small electric utilities in terms of megawatt hours of output, rather than number of employees or annual revenues. Because the Census does not aggregate data for this industry in terms of megawatt hours, a different data source, the Energy Information Administration's (EIA) 1995 Form 861 data, was used. The EIA provides both output and revenue data at the individual utility level for virtually all private and public utilities in the U.S.

Next, the number of affected small entities was estimated using the SBA definition of a small business. SBA defines a small business as one that is independently owned and operated and is not dominant in its field. Depending on the industry, size standard eligibility is based on the average number of employees for the preceding 12-months or on sales volume averaged over a three-year period. Examples of SBA general size standards include the following:

- Agriculture: Annual receipts may not exceed \$0.5 to \$9.0 million, depending on the agricultural product;

- General Construction: Annual receipts may not exceed \$13.5 to \$17.0 million, depending on the type of construction;
- Manufacturing: Maximum number of employees may range from 500 to 1,500, depending on the type of product manufactured;
- Wholesaling: Maximum number of employees may not exceed 100;
- Services: Annual receipts may not exceed \$3.5 to \$21.5 million, depending on the particular service being provided; and
- Retailing: Annual receipts may not exceed \$5.0 to \$21.0 million, depending on the particular product being provided.

Exhibit 5-2, below, presents the SBA definition of a small business for the main industry sectors affected under the SPCC program. Exhibit 5-3 compares the total number of small entities within each category to the total number of entities identified by the Census. The exhibit shows that the SBA definition of small entities encompasses 94 percent or more of the total number of firms or establishments identified by the Census.

EXHIBIT 5-2

SBA DEFINITION OF SMALL ENTITY FOR PRIMARY SPCC INDUSTRY SECTORS

| Industry | SBA Definition of Small Entity |
|---|---------------------------------------|
| Farms | \$0.5 million |
| Coal Mining/Nonmetallic Mining | 500 employees |
| Oil Production | 500 employees |
| Contract Construction | \$17.0 million |
| Food and Kindred Products | 500 employees |
| Chemicals and Allied Products | 500 employees |
| Petroleum Refining and Related Industries | 500 employees |
| Primary Metals | 500 employees |

| | |
|--|------------------------------|
| Other Manufacturing | 500 employees |
| Transportation | \$5.0 million |
| Pipelines | 1,500 employees |
| Electric Utility Plants | 4 million MWh (total output) |
| Petroleum Bulk Stations and Terminals | 100 employees |
| Gasoline Service Stations/Vehicle Rental | \$6.5 million/\$18.5 million |
| Fuel Oil Dealers | \$9.0 million |
| Health Care/Education | \$5.0 million |
| Other Commercial Facilities | \$5.0 million |

EXHIBIT 5-3

NUMBER AND PERCENTAGE OF SMALL ENTITIES IN PRIMARY SPCC INDUSTRY SECTORS

| Industry | U.S. Census Estimate of the Total Number of Firms/Establishments | Approximate Number of SBA-Defined Small Entities | Percentage of Firms/Estab. Defined as Small Entities |
|---|--|--|--|
| Farms | 1,925,300 | 1,878,386 | 98% |
| Coal Mining/Nonmetallic Mining | 8,873 | 8,821 | 99% |
| Oil Production | 7,616 | 7,592 | 100% |
| Contract Construction | 37,180 | 37,180 | 100% |
| Food and Kindred Products | 20,798 | 20,240 | 97% |
| Chemicals and Allied Products | 12,004 | 11,699 | 97% |
| Petroleum Refining and Related Industries | 2,124 | 2,077 | 98% |
| Primary Metals | 6,501 | 6,286 | 97% |
| Other Manufacturing | 329,485 | 325,929 | 99% |
| Transportation | 99,536 | 95,463 | 96% |

| | | | |
|--|-----------|-----------|------|
| Pipelines | 86 | 86 | 100% |
| Electric Utility Plants | 3,215 | 3,029 | 94% |
| Petroleum Bulk Stations and Terminals | 7,871 | 7,755 | 99% |
| Gasoline Service Stations/Vehicle Rental | 59,075 | 56,972 | 96% |
| Fuel Oil Dealers | 4,156 | 4,019 | 97% |
| Health Care/Education | 382,813 | 372,734 | 97% |
| Other Commercial Facilities | 2,669,972 | 2,543,529 | 95% |
| Total | 5,576,605 | 5,381,797 | 97% |

5.3 THE EFFECTS OF THE RULEMAKING ON SMALL ENTITIES

To assess the impacts on small entities affected by the SPCC rulemaking revisions, EPA developed a more detailed characterization of small entities within the main SPCC industry sectors, because using a single industry average to characterize all small entities within a single industry sector could possibly overlook significant impacts on the smallest of the small entities. Specifically, EPA subdivided each industry into several size categories, based on the SBA definition of a small entity for that industry. EPA obtained the number of firms in each size category and the total revenue for all firms in that category from the Census. The Agency then estimated the average revenue for a firm within each group by dividing the total revenue for each group by the total number of firms.

EPA next estimated the unit costs of the revised provisions that may increase burden on facilities subject to the SPCC requirements. Because a firm could be associated with several SPCC facilities, EPA then determined the likely number and types of model facilities that a firm in each industry and size category may own. After making this estimate, EPA calculated the cost to that firm based on the model facility cost estimates. In most cases, especially when the number of firms in an industry exceeded the number of SPCC facilities, the Agency assumed that each firm was associated with at most a single SPCC facility. EPA then estimated the impacts on a typical firm within each size category by comparing the estimated costs of the revisions to the average annual revenue for a firm in that category. Finally, to estimate the total number of small entities impacted, EPA assumed that the impact on the average firm within a given size category represented the impact on each firm in that size category.

Exhibit 5-4 shows the cost associated with those revisions that may increase burden. These estimates are based on the exhibits in Section 3.3. Of course, most of the regulatory changes will reduce reporting and recordkeeping burdens, but those provisions have not been included in this analysis to determine whether the rulemaking may produce a significant adverse impact.

EXHIBIT 5-4
Estimated Annual Costs from Revisions That Increase Burden

| Annual Cost per Facility | | | |
|---------------------------------|--------------|--------------------------|--------------|
| Costs | Small | Medium- Large | Large |
| Cross-Reference | \$15 | \$15 | \$15 |
| Facility Diagram | \$31 | \$37 | \$5 |
| Brittle Fracture Records | \$0 | \$3 | \$15 |
| Read and Understand Rule | \$119 | \$119 | \$119 |
| Total | \$165 | \$174 | \$153 |

For each main industry sector, EPA presents the number of firms that fall under the SBA definition of a small business and the average revenue per firm within several revenue or employment size categories. The number of SPCC facilities, if any, that the Agency believes are likely to be associated with firms in each size category are also shown. For those firms that are likely to be regulated, average revenues are compared to the estimated cost of the rulemaking revisions for a firm (based on a firm's likely association with small, medium, or large SPCC model facilities) to estimate the percentage impact per SPCC-regulated firm. Generally, the smallest firms are expected to have little or no oil storage capacity, while the larger firms are expected to have greater amounts of oil storage capacity. Within some size categories, a range of estimates is given, because it is likely that SPCC-regulated firms are associated with more than one type of model facility. For most industry sectors, EPA determined the distribution of small, medium, and large model facilities based on the total number of firms reported by Census and the total number of SPCC facilities as determined in previous Agency analyses. Industry-specific assumptions made by the Agency concerning the estimation of impacts are discussed for each industry. This section only

examines the impacts to small businesses and does not address impacts to larger businesses.

EXHIBIT 5-5
Distribution of Farms Classified as Small Businesses
by Agricultural Revenue Size
(SIC Codes 01/02)

| | Total Number of Estab.s (1992) | Number of SPCC-Regulated Facilities | Total Revenue (Estab.s) ('000 dollars) | Average Revenue per Estab. ('000 dollars) | Cost of Revisions per SPCC-Regulated Estab. | % Impact per SPCC-Regulated Estab. |
|-----------------------------|--------------------------------|-------------------------------------|--|---|---|------------------------------------|
| Sales < \$1,000 | 212,580 | 0 | \$57,709 | \$0.27 | \$0 | 0.00% |
| Sales \$1,000 - \$2,499 | 210,187 | 0 | \$353,403 | \$1.68 | \$0 | 0.00% |
| Sales \$2,500 - \$4,999 | 231,867 | 0 | \$835,832 | \$3.60 | \$0 | 0.00% |
| Sales \$5,000 - \$9,999 | 251,883 | 0 | \$1,796,553 | \$7.13 | \$0 | 0.00% |
| Sales \$10,000 - \$19,999 | 232,067 | 0 | \$3,291,314 | \$14.18 | \$0 | 0.00% |
| Sales \$20,000 - \$24,999 | 69,737 | 0 | \$1,549,347 | \$22.22 | \$0 | 0.00% |
| Sales \$25,000 - \$39,999 | 134,582 | 0 | \$4,259,990 | \$31.65 | \$0 | 0.00% |
| Sales \$40,000 - \$49,999 | 60,772 | 0 | \$2,706,693 | \$44.54 | \$0 | 0.00% |
| Sales \$50,000 - \$99,999 | 187,760 | 0 | \$13,516,761 | \$71.99 | \$0 | 0.00% |
| Sales \$100,000 - \$249,999 | 208,405 | 102,118 | \$32,710,764 | \$156.96 | \$165 | 0.11% |
| Sales \$250,000 - \$499,999 | 78,546 | 38,488 | \$26,914,023 | \$342.65 | \$165 | 0.05% |

EXHIBIT 5-6
Distribution of Establishments in the Coal and Nonmetallic Mining Industries
Classified as Small Businesses by Employment Size
(SIC Codes 12/14)

| | Total Number of Estab.s (1992) | Number of SPCC-Regulated Facilities | Total Revenue (Estab.s) ('000 dollars) | Average Revenue per Estab. ('000 dollars) | Cost of Revisions per SPCC-Regulated Estab. | % Impact per SPCC-Regulated Estab. |
|--------------------|--------------------------------|-------------------------------------|--|---|---|------------------------------------|
| Coal Mining | | | | | | |
| 0 - 4 employees | 830 | 0 | \$565,800 | \$682 | \$0 | 0.00% |

| | | | | | | |
|---------------------------|-------|-----|--------------|----------|---------------|-------|
| 5 - 9 employees | 419 | 0 | \$419,900 | \$1,002 | \$0 | 0.00% |
| 10 - 19 employees | 582 | 0 | \$1,554,800 | \$2,671 | \$0 | 0.00% |
| 20 - 49 employees | 652 | 447 | \$4,331,700 | \$6,644 | \$165 - \$174 | 0.00% |
| 50 - 499 employees | 560 | 384 | \$17,069,000 | \$30,480 | \$165 - \$174 | 0.00% |
| Nonmetallic Mining | | | | | | |
| 0 - 19 employees | 4,418 | 0 | \$3,211,400 | \$727 | \$0 | 0.00% |
| 20 - 249 employees | 1,357 | 931 | \$7,694,200 | \$5,670 | \$165 - \$174 | 0.00% |
| 250 - 499 employees | 3 | 2 | \$295,588 | \$92,062 | \$165 - \$174 | 0.00% |

EXHIBIT 5-7
Distribution of Firms in the Oil Production Industry Classified as Small
Businesses by Employment Size
(SIC Code 131)

| | Total Number of Firms (1992) | Number of SPCC- Regulated Facilities | Total Revenue (Firms)(‘000 dollars) | Average Revenue per Firm(‘000 dollars) | Cost of Revisions per SPCC-Regulated Firm | % Impact per SPCC- Regulated Firm |
|---------------------|------------------------------------|---|---|---|--|--|
| 0 - 9 employees | 6,216 | 6,216 | \$2,632,100 | \$423 | \$165 | 0.04% |
| 10 - 19 employees | 600 | 2,091 | \$1,623,800 | \$2,706 | \$575 | 0.02% |
| 20 - 49 employees | 500 | 4,439 | \$3,671,000 | \$7,342 | \$1,465 | 0.02% |
| 50 - 99 employees | 200 | 6,284 | \$5,811,800 | \$29,05 | \$5,184 | 0.02% |
| 100 - 249 employees | 32 | 2,822 | \$2,698,400 | \$84,325 | \$14,551 | 0.02% |
| 250 - 499 employees | 44 | 7,584 | \$8,420,200 | \$191,368 | \$28,440 | 0.01% |

EXHIBIT 5-8
Distribution of Establishments in the Construction Industry Classified as Small
Businesses by Revenue Size
(SIC Code 16)

| | | | | | | |
|--|--|--|--|--|--|--|
| | | | | | | |
|--|--|--|--|--|--|--|

| | Total Number of Estab.s (1992) | Number of SPCC- Regulated Facilities | Total Revenue (Estab.s) ('000 dollars) | Average Revenue per Estab. ('000 dollars) | Cost of Revisions per SPCC-Regulated Estab. | % Impact per SPCC- Regulated Estab. |
|---------------------------------|--------------------------------------|---|--|--|--|--|
| Sales < \$100,000 | 6,291 | 0 | \$318,057 | \$51 | \$0 | 0.00% |
| Sales \$100,000 - \$249,999 | 7,078 | 0 | \$1,183,140 | \$167 | \$0 | 0.00% |
| Sales \$250,000 - \$499,999 | 6,299 | 0 | \$2,259,805 | \$359 | \$0 | 0.00% |
| Sales \$500,000 - \$999,999 | 5,134 | 1,939 | \$3,637,836 | \$709 | \$165 | 0.02% |
| Sales \$1,000,000 - \$2,499,999 | 5,651 | 2,134 | \$8,834,980 | \$1,563 | \$165 | 0.01% |
| Sales \$2,500,000 - \$4,999,999 | 2,920 | 1,103 | \$10,356,805 | \$3,547 | \$165 | 0.00% |
| Sales \$5,000,000 - \$9,999,999 | 1,903 | 1,012 | \$13,359,385 | \$7,020 | \$153 - \$174 | 0.00% |
| Sales >= \$10,000,000 | 1,904 | 1,013 | \$58,578,174 | \$30,766 | \$153 - \$174 | 0.00% |

EXHIBIT 5-9

Distribution of Establishments in the Food and Kindred Products Industry Classified as Small Businesses by Employment Size (SIC Code 20)

| | Total Number of Estab.s (1992) | Number of SPCC- Regulated Facilities | Total Revenue (Estab.s) ('000 dollars) | Average Revenue per Estab. ('000 dollars) | Cost of Revisions per SPCC-Regulated Estab. | % Impact per SPCC- Regulated Estab. |
|---------------------|--------------------------------------|---|--|--|--|--|
| 1 - 4 employees | 5,767 | 0 | \$2,046,000 | \$355 | \$0 | 0.00% |
| 5 - 9 employees | 2,886 | 826 | \$3,793,400 | \$1,314 | \$165 | 0.01% |
| 10 - 19 employees | 2,816 | 806 | \$8,304,600 | \$2,949 | \$165 | 0.01% |
| 20 - 49 employees | 3,569 | 1,021 | \$30,301,600 | \$8,490 | \$165 | 0.00% |
| 50 - 99 employees | 2,147 | 614 | \$46,984,400 | \$21,884 | \$165 - \$174 | 0.00% |
| 100 - 249 employees | 2,139 | 612 | \$97,147,900 | \$45,417 | \$165 - \$174 | 0.00% |
| 250 - 499 employees | 916 | 262 | \$82,756,800 | \$90,346 | \$154 - \$174 | 0.00% |

EXHIBIT 5-10

**Distribution of Establishments in the Chemicals and Allied Products Industry
Classified as Small Businesses by Employment Size
(SIC Code 28)**

| | Total Number of Estab.s (1992) | Number of SPCC- Regulated Facilities | Total Revenue (Estab.s) ('000 dollars) | Average Revenue per Estab. ('000 dollars) | Cost of Revisions per SPCC-Regulated Estab. | % Impact per SPCC- Regulated Estab. |
|---------------------|---|---|---|--|--|--|
| 1 - 4 employees | 3,102 | 0 | \$1,703,200 | \$549 | \$0 | 0.00% |
| 5 - 9 employees | 1,937 | 718 | \$3,386,200 | \$1,748 | \$165 | 0.01% |
| 10 - 19 employees | 1,921 | 712 | \$7,122,400 | \$3,708 | \$165 | 0.00% |
| 20 - 99 employees | 3,469 | 1,286 | \$48,277,000 | \$13,917 | \$165 - \$174 | 0.00% |
| 100 - 249 employees | 920 | 341 | \$50,976,600 | \$55,409 | \$154 - \$174 | 0.00% |
| 250 - 499 employees | 350 | 130 | \$54,197,000 | \$154,849 | \$154 | 0.00% |

EXHIBIT 5-11

**Distribution of Establishments in Petroleum Refining and Related Industries
Classified as Small Businesses by Employment Size
(SIC Code 29)**

| | Total Number of Estab.s (1992) | Number of SPCC- Regulated Facilities | Total Revenue (Estab.s) ('000 dollars) | Average Revenue per Estab. ('000 dollars) | Cost of Revisions per SPCC-Regulated Estab. | % Impact per SPCC- Regulated Estab. |
|---------------------|---|---|---|--|--|--|
| 1 - 4 employees | 700 | 527 | \$913,600 | \$1,305 | \$165 - \$174 | 0.01% |
| 5 - 9 employees | 442 | 333 | \$1,196,400 | \$2,707 | \$174 | 0.01% |
| 10 - 19 employees | 294 | 221 | \$1,349,400 | \$4,590 | \$174 | 0.00% |
| 20 - 49 employees | 317 | 239 | \$4,169,200 | \$13,152 | \$154 - \$174 | 0.00% |
| 50 - 99 employees | 146 | 110 | \$4,914,500 | \$33,661 | \$154 | 0.00% |
| 100 - 249 employees | 123 | 93 | \$18,055,800 | \$146,795 | \$154 | 0.00% |
| 250 - 499 employees | 55 | 41 | \$46,949,811 | \$853,633 | \$154 | 0.00% |

EXHIBIT 5-12

**Distribution of Establishments in the Primary Metals Industry Classified as
Small Businesses by Employment Size
(SIC Code 33)**

| | Total Number of Estab.s (1992) | Number of SPCC- Regulated Facilities | Total Revenue (Estab.s) ('000 dollars) | Average Revenue per Estab. ('000 dollars) | Cost of Revisions per SPCC-Regulated Estab. | % Impact per SPCC- Regulated Estab. |
|---------------------|--------------------------------------|---|--|--|--|--|
| 1 - 4 employees | 1,270 | 0 | \$622,488 | \$490 | \$0 | 0.00% |
| 5 - 9 employees | 760 | 102 | \$372,512 | \$490 | \$165 | 0.03% |
| 10 - 49 employees | 2,206 | 295 | \$7,566,500 | \$3,430 | \$165 - \$174 | 0.01% |
| 50 - 249 employees | 1,685 | 225 | \$35,521,900 | \$21,081 | \$174 | 0.00% |
| 250 - 499 employees | 365 | 49 | \$26,767,200 | \$73,335 | \$174 | 0.00% |

EXHIBIT 5-13

**Distribution of Other Establishments in the Manufacturing Industry
Classified as Small Businesses by Employment Size
(SIC Codes 20-39)**

| | Total Number of Estab.s (1992) | Number of SPCC- Regulated Facilities | Total Revenue (Estab.s) ('000 dollars) | Average Revenue per Estab. ('000 dollars) | Cost of Revisions per SPCC-Regulated Estab. | % Impact per SPCC- Regulated Estab. |
|---------------------|--------------------------------------|---|--|--|--|--|
| 1 - 4 employees | 118,255 | 0 | \$21,291,512 | \$180 | \$0 | 0.00% |
| 5 - 9 employees | 60,021 | 4,404 | \$34,785,288 | \$580 | \$165 | 0.03% |
| 10 - 249 employees | 141,542 | 10,386 | \$742,914,200 | \$5,249 | \$165 - \$174 | 0.00% |
| 250 - 499 employees | 6,111 | 448 | \$271,092,589 | \$44,361 | \$154 - \$174 | 0.00% |

EXHIBIT 5-14

**Distribution of Firms in the Transportation Industry Classified as
Small Businesses by Revenue Size
(SIC Codes 411/413/414/417/42/449/458)**

| | | | | | | |
|--|--|--------------------|--|--|--------------------------|--|
| | | Number of SPCC- | | | Cost of Revisions per | |
|--|--|--------------------|--|--|--------------------------|--|

| | Total Number of Firms (1992) | Regulated Facilities | Total Revenue (Firms) ('000 dollars) | Average Revenue per Firm ('000 dollars) | SPCC-Regulated Firm | % Impact per SPCC-Regulated Firm |
|---------------------------------|------------------------------|----------------------|--------------------------------------|---|---------------------|----------------------------------|
| Sales < \$100,000 | 20,173 | 0 | \$1,209,005 | \$60 | \$0 | 0.00% |
| Sales \$100,000 - \$249,999 | 26,897 | 5,592 | \$4,391,119 | \$163 | \$165 | 0.10% |
| Sales \$250,000 - \$499,999 | 18,581 | 3,863 | \$6,576,471 | \$354 | \$165 | 0.05% |
| Sales \$500,000 - \$999,999 | 13,863 | 2,882 | \$9,709,760 | \$700 | \$165 - \$174 | 0.02% |
| Sales \$1,000,000 - \$2,499,999 | 11,354 | 2,361 | \$17,602,357 | \$1,550 | \$174 | 0.01% |
| Sales \$2,500,000 - \$4,999,999 | 4,595 | 955 | \$15,892,677 | \$3,459 | \$174 | 0.01% |

EXHIBIT 5-15
Distribution of Firms in the Pipeline Industry Classified as Small Businesses
by Revenue Size
(SIC Code 46)

| | Total Number of Firms (1992) | Number of SPCC-Regulated Facilities | Total Revenue (Firms) ('000 dollars) | Average Revenue per Firm ('000 dollars) | Cost of Revisions per SPCC-Regulated Firm | % Impact per SPCC-Regulated Firm |
|-------------------------|------------------------------|-------------------------------------|--------------------------------------|---|---|----------------------------------|
| 0 - 9 employees | 31 | 31 | \$150,888 | \$4,867 | \$165 | 0.00% |
| 10 - 19 employees | 10 | 10 | \$34,498 | \$3,450 | \$165 | 0.00% |
| 20 - 49 employees | 3 | 4 | \$24,166 | \$8,055 | \$220 | 0.00% |
| 50 - 99 employees | 10 | 38 | \$258,358 | \$25,836 | \$627 | 0.00% |
| 100 - 249 employees | 11 | 65 | \$433,023 | \$39,366 | \$975 | 0.00% |
| 250 - 499 employees | 6 | 84 | \$1,787,777 | \$297,963 | \$2,310 - \$2,436 | 0.00% |
| 500 - 999 employees | 12 | 310 | \$3,230,336 | \$269,195 | \$3,978 - \$4,495 | 0.00% |
| 1,000 or more employees | 3 | 58 | \$1,128,968 | \$376,323 | \$2,977 | 0.00% |

EXHIBIT 5-16
Distribution of Electric Utilities Classified as Small Businesses by Revenue Size
(SIC Code 4911)

| | | Number of SPCC- | Total Revenue (Utilities) | | Cost of Revisions per | % Impact per SPCC- |
|--|--|-----------------|---------------------------|--|-----------------------|--------------------|
|--|--|-----------------|---------------------------|--|-----------------------|--------------------|

| | Total Number of Utilities (1995) | Regulated Facilities | ('000 dollars) | Average Revenue per Utility ('000 dollars) | SPCC-Regulated Utility | Regulated Utility |
|-----------------------|----------------------------------|----------------------|----------------|--|------------------------|-------------------|
| 0.0 - 0.1 million MWh | 1,707 | 1,707 | \$4,229,382 | \$2,478 | \$154 | 0.01% |
| 0.1 - 1.0 million MWh | 1,145 | 1,145 | \$22,735,357 | \$19,856 | \$154 | 0.00% |
| 1.0 - 4.0 million MWh | 177 | 177 | \$17,848,257 | \$100,838 | \$154 | 0.00% |

EXHIBIT 5-17

Distribution of Firms in the Petroleum Bulk Station and Terminal Industry Classified as Small Businesses by Revenue Size (SIC Code 5171)

| | Total Number of Firms (1992) | Number of SPCC-Regulated Facilities | Total Revenue (Firms) ('000 dollars) | Average Revenue per Firm ('000 dollars) | Cost of Revisions per SPCC-Regulated Firm | % Impact per SPCC-Regulated Firm |
|-------------------|------------------------------|-------------------------------------|--------------------------------------|---|---|----------------------------------|
| 0 - 4 employees | 2,429 | 2,429 | \$4,137,395 | \$1,703 | \$165 - \$174 | 0.01% |
| 5 - 9 employees | 2,241 | 2,241 | \$11,092,383 | \$4,950 | \$174 | 0.00% |
| 10 - 19 employees | 1,765 | 1,765 | \$16,307,761 | \$9,240 | \$174 | 0.00% |
| 20 - 49 employees | 1,036 | 2,072 | \$20,842,729 | \$20,118 | \$348 | 0.00% |
| 50 - 99 employees | 284 | 568 | \$13,833,068 | \$48,708 | \$308 - \$348 | 0.00% |

EXHIBIT 5-18

Distribution of Firms in the Gasoline Service Station and Vehicle Rental Industries Classified as Small Businesses by Revenue Size (SIC Codes 554/751)

| | Total Number of Firms (1992) | Number of SPCC-Regulated Facilities | Total Revenue (Firms) ('000 dollars) | Average Revenue per Firm ('000 dollars) | Cost of Revisions per SPCC-Regulated Firm | % Impact per SPCC-Regulated Firm |
|----------------------------------|------------------------------|-------------------------------------|--------------------------------------|---|---|----------------------------------|
| Gasoline Service Stations | | | | | | |
| Sales < \$250,000 | 8,253 | 0 | \$1,184,947 | \$144 | \$0 | 0.00% |
| Sales \$250,000 - \$499,999 | 9,358 | 2,437 | \$3,443,224 | \$368 | \$165 | 0.04% |
| Sales \$500,000 - \$999,999 | 11,942 | 3,109 | \$8,683,722 | \$727 | \$165 - \$174 | 0.02% |

| | | | | | | |
|-----------------------------------|--------|-------|--------------|----------|---------------|-------|
| Sales \$1,000,000 - \$2,499,999 | 17,286 | 4,501 | \$27,262,533 | \$1,577 | \$174 | 0.01% |
| Sales \$2,500,000 - \$4,999,999 | 5,006 | 1,303 | \$16,794,841 | \$3,355 | \$174 | 0.01% |
| Sales \$5,000,000 - \$6,499,999 | 433 | 113 | \$2,935,738 | \$6,782 | \$154 - \$174 | 0.00% |
| Vehicle Rental | | | | | | |
| Sales < \$100,000 | 893 | 0 | \$49,577 | \$56 | \$0 | 0.00% |
| Sales \$100,000 - \$249,999 | 1,042 | 271 | \$172,145 | \$165 | \$165 | 0.10% |
| Sales \$250,000 - \$499,999 | 872 | 227 | \$313,020 | \$359 | \$165 | 0.05% |
| Sales \$500,000 - \$999,999 | 739 | 192 | \$510,392 | \$691 | \$165 - \$174 | 0.03% |
| Sales \$1,000,000 - \$2,499,999 | 668 | 174 | \$1,040,266 | \$1,557 | \$174 | 0.01% |
| Sales \$2,500,000 - \$4,999,999 | 261 | 68 | \$912,764 | \$3,497 | \$174 | 0.00% |
| Sales \$5,000,000 - \$9,999,999 | 170 | 44 | \$1,166,011 | \$6,859 | \$174 | 0.00% |
| Sales \$10,000,000 - \$18,499,999 | 49 | 13 | \$727,354 | \$14,925 | \$154 - \$174 | 0.00% |

EXHIBIT 5-19
Distribution of Firms in the Fuel Oil Dealer Industry Classified as Small
Businesses by Revenue Size
(SIC Code 5983)

| | Total Number of Firms (1992) | Number of SPCC- Regulated Facilities | Total Revenue (Firms) ('000 dollars) | Average Revenue per Firm ('000 dollars) | Cost of Revisions per SPCC- Regulated Firm | % Impact per SPCC- Regulated Firm |
|---------------------------------|---|---|---|--|---|--|
| Sales < \$250,000 | 495 | 465 | \$72,499 | \$146 | \$165 | 0.11% |
| Sales \$250,000 - \$499,999 | 679 | 637 | \$254,251 | \$374 | \$165 | 0.04% |
| Sales \$500,000 - \$999,999 | 1,065 | 999 | \$775,040 | \$728 | \$165 - \$174 | 0.02% |
| Sales \$1,000,000 - \$2,499,999 | 1,211 | 1,136 | \$1,903,389 | \$1,572 | \$174 | 0.01% |
| Sales \$2,500,000 - \$4,999,999 | 431 | 404 | \$1,447,285 | \$3,358 | \$174 | 0.01% |
| Sales \$5,000,000 - \$8,999,999 | 138 | 130 | \$943,029 | \$6,814 | \$154 - \$174 | 0.00% |

EXHIBIT 5-20
Distribution of Firms in the Health Care and Education Industries Classified as
Small Businesses by Revenue Size
(SIC Codes 801/802/803/804/805/806/807)

| | Total Number of Firms (1992) | Number of SPCC-Regulated Facilities | Total Revenue (Firms) ('000 dollars) | Average Revenue per Firm ('000 dollars) | Cost of Revisions per SPCC-Regulated Firm | % Impact per SPCC-Regulated Firm |
|---------------------------------|------------------------------|-------------------------------------|--------------------------------------|---|---|----------------------------------|
| Sales < \$100,000 | 38,331 | 0 | \$2,450,771 | \$64 | \$0 | 0.00% |
| Sales \$100,000 - \$249,999 | 112,109 | 1,692 | \$19,552,771 | \$174 | \$165 | 0.09% |
| Sales \$250,000 - \$499,999 | 115,694 | 1,746 | \$40,932,245 | \$354 | \$165 | 0.05% |
| Sales \$500,000 - \$999,999 | 63,069 | 952 | \$43,104,472 | \$683 | \$165 | 0.02% |
| Sales \$1,000,000 - \$2,499,999 | 32,910 | 497 | \$49,866,711 | \$1,515 | \$165 - \$174 | 0.01% |
| Sales \$2,500,000 - \$4,999,999 | 10,621 | 160 | \$36,507,348 | \$3,437 | \$174 | 0.01% |

EXHIBIT 5-21
Distribution of Other Commercial Firms Classified as Small Businesses
by Revenue Size
(SIC Codes 50-89, excluding SIC Codes 5171, 554, 5983, 751, and 801-807)

| | Total Number of Firms (1992) | Number of SPCC-Regulated Facilities | Total Revenue (Firms) ('000 dollars) | Average Revenue per Firm ('000 dollars) | Cost of Revisions per SPCC-Regulated Firm | % Impact per SPCC-Regulated Firm |
|---------------------------------|------------------------------|-------------------------------------|--------------------------------------|---|---|----------------------------------|
| Sales < \$250,000 | 1,307,107 | 0 | \$152,478,332 | \$117 | \$0 | 0.00% |
| Sales \$250,000 - \$499,999 | 505,076 | 14,824 | \$177,619,257 | \$352 | \$165 | 0.05% |
| Sales \$500,000 - \$999,999 | 360,813 | 10,590 | \$250,677,354 | \$695 | \$165 | 0.02% |
| Sales \$1,000,000 - \$2,499,999 | 266,512 | 7,822 | \$401,805,824 | \$1,508 | \$165 | 0.01% |
| Sales \$2,500,000 - \$4,999,999 | 104,021 | 3,053 | \$348,644,995 | \$3,352 | \$165 | 0.00% |

5.4 CONCLUSION

Overall, the Agency does not find the SPCC rulemaking revisions to cause a significant impact on a substantial number of small firms. In fact, based on U.S. Census data and cost estimates for the revisions, the Agency did not find a significant economic impact on any single group of small businesses within any industry category identified as being subject to the SPCC program. In all cases the total cost of the revisions was estimated to be less than two-tenths of one percent of the revenue of the firm.